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Summary of the Status of Commercially Harvested Fish Stocks in Lake Huron in 2008 and Recommended Quota Adjustments for 2009

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Summary of the Status of Commercially Harvested Fish Stocks in Lake Huron in 2008 and Recommended Quota Adjustments for 2009

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Upper Great Lakes Management Unit,
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Introduction

Assessment of the commercially targeted fish stocks in Lake Huron is one of the core responsibilities of the Upper Great Lakes Management Unit's (UGLMU) Lake Huron office. Commercial fishing exists throughout most of the waters of Lake Huron and targets several species, including lake whitefish, walleye, and yellow perch. Both Ontario licensed commercial fisheries and Aboriginal commercial and subsistence fisheries exist in Lake Huron, adding to the complexity of the fishery.

Over the past several years, new methods of assessing commercially harvested fish stocks in Lake Huron have been implemented. These methods continue to be developed and refined on an ongoing basis. This report is part of the process of reporting the status of commercial stocks in Lake Huron. It has two purposes: 1) briefly summarize the methodologies and analyses that have been conducted on the available data from these stocks, and 2) list recommendations for any changes to existing commercial fishery quotas based on interpretation of the available biological data. ***These recommendations are preliminary and may not reflect the final adjustments implemented by lake management staff.***

Methods

Complete analyses and summary of commercial fishery data is calculated based upon three major assessment programs run by the UGLMU: the Commercial Harvest Reporting program, the Commercial Catch Sampling program and the Offshore Index Assessment program (referred to as Offshore Index for the remainder of this document). The status of each of these programs is generally reported independently on an annual basis. External data are also included in some of the analyses described in this report. These analyses may include data from the Saugeen Ojibway Assessment program, the Anishinabek/Ontario Fisheries Resource Centre (AOFRC), or results from joint assessments with U.S. partners. Any external data used in this report is referenced in the appropriate section.

The metrics used to assess the fish stocks for each species in each Quota Management Area (QMA) are largely determined by the type and amount of data available (Mohr et al. 1997). At a minimum, trends in reported harvest, catch-per-unit-effort (CPUE), and percent quota harvested are considered as indicators of stock status. In some QMAs with small fisheries, or species that are infrequently targeted, these may be the only metrics available for stock evaluation.

In addition to these core metrics, biological data are normally available for the most frequently harvested species through the UGLMU onboard catch sampling program. The biological data from this program provides information on the size and age composition of the catch, as well as information about sex, maturity, and lamprey wounding. An incidental catch ratio (ICR) is also calculated for lake trout. This is a ratio of how many lake trout compared to lake whitefish, are caught in nets specifically targeting lake whitefish. It is a coarse indicator of lake trout abundance. Collectively, this information can be used to gain insights into the dynamics of the stocks (e.g. identify strong and weak year classes and changes in growth or maturity), allow for estimation of stock abundance and biomass, and help to document changes in the stock that may have ramifications for the commercial fishery or the lake ecosystem as a whole.

Onboard catch sampling data are also used to monitor the age composition of the catch, including the mean age and number of age classes. The majority of fish caught are aged using scales, with the exception of lake herring and unclipped lake trout, where otoliths are used. For stocked lake trout, age estimates are interpreted based on year specific fin clips or by coded wire tags (CWTs). Generally, populations with more age classes are more resilient than those with only a few strong cohorts. The importance of maintaining a broad age distribution in exploited fish stocks has become increasingly apparent in recent years (Berkeley et al. 2004; Francis et al. 2007). Age composition data are used in a number of ways. When several years of catch sampling data are summarized in catch-at-age tables (see Appendix B), the age structure of the population through time becomes immediately apparent. Additionally, catch curve analysis (Ricker 1975) is used to estimate total annual mortality for each year for each species and QMA based on the observed age composition.

Where sufficient data exists, age-structured models are used to provide additional insights into the status of specific species and populations around the lake. Both cohort analysis (Pope 1972) and statistical catch-at-age models (SCAA; Ebener et al. 2005) are used, depending on the species and QMA. Due to the data intensive nature of these models, they are generally only performed for the larger fisheries on the lake. Cohort and SCAA models provide estimates of total mortality, fishing mortality by gear, biomass by age through time, and spawning potential ratio (SPR), as well as a number of other population parameters or biological reference points. SPR is a biological reference point that is often reported and provides an indication of the degree to which the current fishing intensity is influencing the reproductive potential of the exploited population. For lake whitefish stocks in the Canadian portion of Lake Huron, the SPR should never be less than 0.20. Where cohort mortality estimates are reported, they are three-year running averages. Additionally, the age-structured models are projected one year into the future to ensure that current exploitation levels are sustainable.

While not presented in this report, chloropleth maps were also used to visualize the spatial and temporal patterns in effort, harvest, and CPUE of the commercial fishery within each QMA.

The UGLMU also conducts a fishery-independent Offshore Index that provides information that cannot be readily obtained though sampling the commercial catch. One of the most important roles of this program is to provide insights into the strength of year classes before they recruit to the commercial fishery. For selected species, a pre-recruit index (PRI) is calculated to express relative year class strength. The PRI is the mean CPUE for each species in index nets for two to four years prior to their recruitment to commercial gear, standardized to an average of 10. Strong year classes will have a PRI that is greater than 10, while weak year classes will have a PRI that is less than 10. In addition to the PRI, the Offshore Index also provides important information about the population dynamics of several stocks and an indication of the overall fish community structure in Lake Huron. Where CPUE data from the Offshore Index program is discussed, it is generally presented using line plots showing the trend in the mean CPUE though time. The age composition observed in the Offshore Index is illustrated using bubble plots where the size of the bubble is proportional to the contribution of that age group to the catch. Bubble plots are particularly effective at showing the relative strength (or weakness) of individual cohorts.

To facilitate the compilation and interpretation of the numerous metrics used in the stock status process, the UGLMU has developed a stock status evaluation protocol (SSEP) for lake whitefish (Table 1). An example of the application of this method can be found in Mohr and Ebener (2007). A SSEP table is completed for lake whitefish in each QMA, and provides a relatively simple way to graphically communicate the current status of each lake whitefish stock. The SSEP should not be interpreted as a 'score-card' but rather needs to be considered as a communication tool. The SSEP is simply a way to convey the results of numerous, sometimes complex, sometimes contradictory, analyses to managers, stake holders and the public in general. The fact that the status of each stock is often evident from the SSEP speaks to its effectiveness as a tool for communicating a complex, multi-facetted process. On occasion, there are differences between metrics. A secondary function fulfilled by the SSEP is to highlight these discrepancies, which can be then be re-visited and verified. If there are caveats or considerations associated with a particular biological reference point, these are normally captured in the comments section at the bottom of the SSEP, and in the associated section of this report.

Finally, it is important to note that the amount of data available for analysis is important for managing risk associated with the commercial fisheries in Lake Huron. In the absence of sufficient data, the UGLMU must manage the fishery conservatively. As more data are made available, it increases the ability of the UGLMU to assess the status of the stock and thereby manage the fishery with a higher degree of certainty.

Table 1. The Upper Great Lakes Management Unit's stock status evaluation protocol summary table for lake whitefish.

QMA:	Status of Stock				
Parameter	←← LOWER **Risk** HIGHER →→ ←← HIGHER **Health/Sustainability** LOWER →→				
CPUE Commercial Harvest	Increase over 2 or more consecutive years	No trend over 2 or more consecutive years	Decline over 2 consecutive years	Decline over 3 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
STATISTICAL CATCH AT AGE					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>.45	>.35	> .20	<.20	<.15
2007 - 3 yr Old Recruitment	Very High (>200%)	Higher than Average (>150% and <200%)	Average (>67% and <150%)	Lower than Average (>33% and <67%)	Very Low (<33%)
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Figure 1. Quota Management Areas (QMAs) defined for managing commercial fish species in Lake Huron. Basins defined in this report include the main basin (4-1 to 4-7), Georgian Bay (5-1 to 5-9), and the North Channel (6-1 and 6-3).

Lake Whitefish - Overall

Lake whitefish remains the dominant species targeted commercially in Lake Huron. Harvest increased in 2008 compared to the previous couple of years. However, only 70.3% of the available quota was harvested. Most of the increase in harvest came from Georgian Bay, where harvests increased substantially. Specifically, QMA 5-8 had the highest harvest since 1991 and QMA 5-4 had the highest since 2003. Harvest in the main basin continued to decline in 2008 with the exception of the gillnet harvest in 4-5, where harvest increased noticeably.

The age distribution of lake whitefish in the catch from the commercial fishery continues to change throughout the lake. Generally, harvested lake whitefish are getting older; the mean age across all three basins was above six years old. On a lake wide basis, recruitment of lake whitefish continues to be uncertain. The UGLMU's Offshore Index suggests that recent year classes in both the central main basin and southern Georgian Bay are weak. In contrast, several successive year classes have been observed in the southern main basin index program and younger fish continue to be well represented in the catch from the North Channel.

Generally, the lake whitefish stocks around Lake Huron appear to have stabilized and in most parts of the lake do not exhibit overt signs of over-exploitation. However, in southern Georgian Bay, harvest has increased markedly in recent years and recruitment appears to have decreased. Current levels of harvest appear to be close to the upper threshold of sustainability in these QMAs and will continue to be monitored closely in upcoming years.

Lake Whitefish QMA 4-1

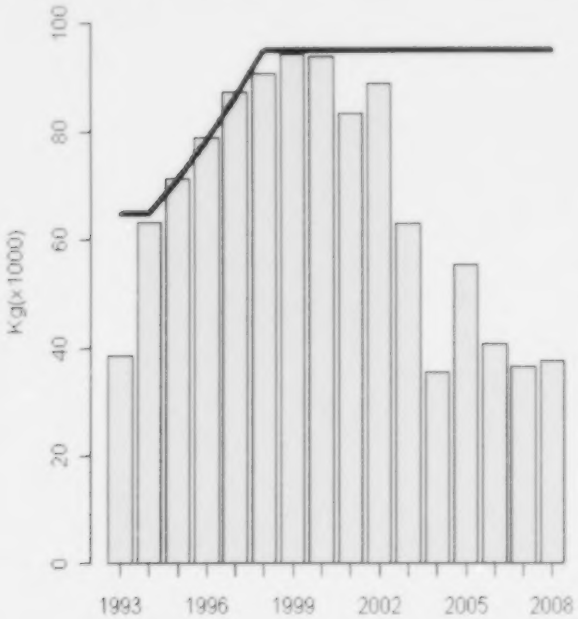

Figure 2. Lake whitefish quota (line) and harvest (bars) from management area 4-1.

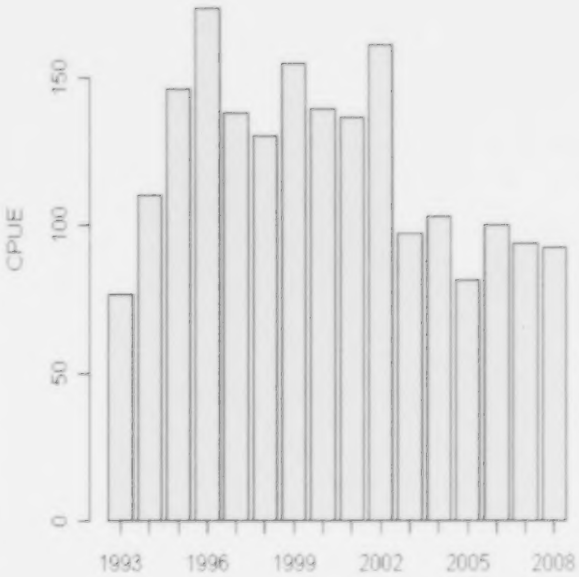

Figure 3. Lake whitefish gill net CPUE (kg/km) for management 4-1.

Harvest of lake whitefish continues to be well below the levels reported prior to 2003. For the third year in a row, less than half of the available quota was harvested from this QMA (Fig. 2). Despite the broad spatial distribution of effort, much of the harvest typically comes from the eastern-most grids in this QMA with most of the harvest occurring from September to December.

Overall effort continues to be noticeably lower than the period prior to 2003. Aggregate CPUE in this QMA has been declining in recent years (Fig. 3). CPUE reported in 2008, was lower than both 2006 and 2007, and was noticeably lower than the period between 1994 and 2002.

Biological attributes were collected from 100 fish sampled from the commercial catch in 2008. The sampled catch was made up of eight age classes ranging from five to 13 years, with age eight and nine dominating. The mean age was 8.63 and has slowly increasing over the past decade. Currently, there are no fish younger than five evident in the population and the 2000 year class remains the most abundant in the catch. Catch curve annual mortality was estimated at 55.3%. The weight-at-age trend appears stable for fish sampled from this QMA.

Cohort analysis indicates the total annual mortality and the exploitable biomass harvest ratio (EB:H) are 48.8% and 24.4% respectively. These values are considered to be moderate and suggest that the population is not currently over exploited. However, the estimate of exploitable biomass has declined steadily since 2005. The estimate of exploitable biomass in 2008 was only 35% of what it was in 2005.

The SCAA model based on data from QMAs 4-1, 4-2 and 4-3 combined indicates that total mortality is moderate (A=41.0%) and the current level of exploitation does not appear to be impeding the reproductive capacity of the stocks in this part of the lake (SPR = 0.62). However, the total estimated biomass dropped sharply between 2007 and 2008, largely due the absence of five and, to lesser extent, six year olds in the catch. There is very little evidence of recent year classes and recruitment in this part of the lake is a concern. The estimated biomass (including fish five years and older) in 2008 was just over half of the estimated biomass from 2005. The SCAA model suggests that over the last four years, approximately 10% of the available biomass has been harvested per year

by the commercial fishery. If the harvest levels remain unchanged in 2009, it is estimated that 14% of the available biomass will be harvested from these QMAs.

Summary and Recommendation

The low numbers of younger age classes (especially five and six year olds) is a concern and is driving biomass estimates for this QMA. Weight-at-age from the sampled catch continues to be depressed relative to a decade ago and as a result, exploitable biomass is trending downwards (in both cohort and SCAA models). Although there is some variability in the indicators used to evaluate the stock, it does not appear as though the lake whitefish stocks in this QMA are over exploited at current harvest levels.

RECOMMENDATION: No Change

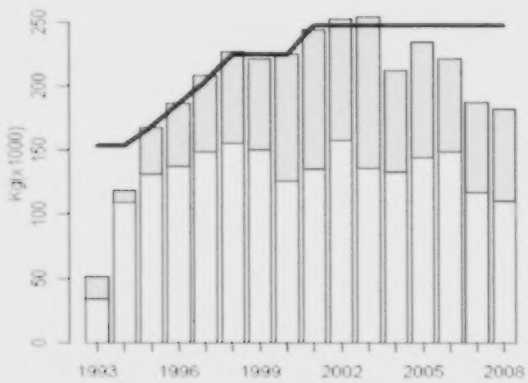

Figure 4. Lake whitefish quota (line) and harvest (bars) from management area 4-2.

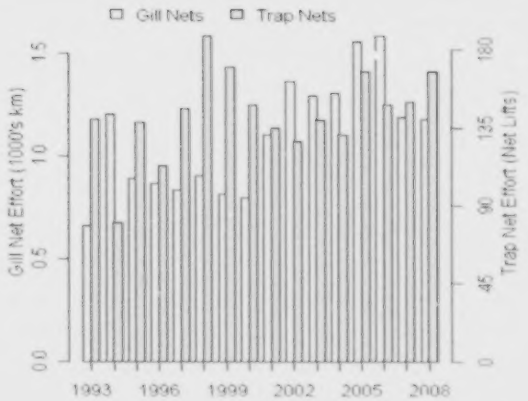

Figure 5. Lake whitefish targeted effort by gear for management area 4-2.

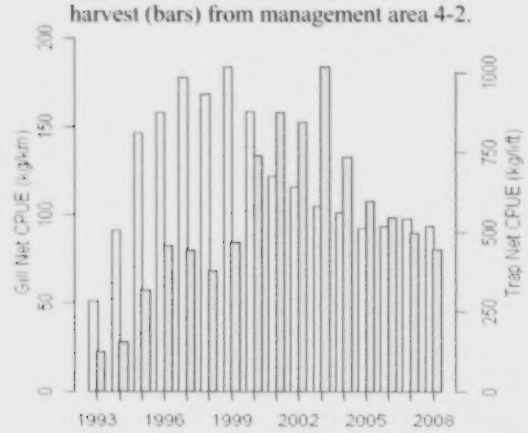

Figure 6. Lake whitefish CPUE by gear for management area 4-2.

Harvest of lake whitefish was down slightly in 2008. This was the third consecutive year where harvest declined and the fifth consecutive year where quota was not met (Fig. 4). Gill net harvest was down substantially for the second year in a row in 2008, and was less than 75% of what it was in 2006.

Gill net effort in 2008 was similar to 2007 and below the effort deployed between 2002 and 2006 (Fig. 5). Virtually all of the large mesh effort in this QMA is targeted at lake whitefish. There have been no appreciable changes in the spatial distribution of gill net effort over the last eight years. Trap net effort was up in 2008 and was among the highest reported over the 15 years.

After declining steadily from 1999 to 2005, the mean CPUE reported from gill nets appears to have stabilized (Fig. 6), but remains noticeably lower than the period between 1999 and 2004. The trap net CPUE has been declining steadily since 2003.

Biological attributes were collected from 502 fish sampled from the commercial catch. The sampled gill net catch was made up of eight age year classes ranging from age five to 12 years with age eight and nine dominating, while the sampled trap net catch was made up of ten age classes ranging from age three to 12 years, again with age eight and nine dominating. The mean age of the fish sampled from the gill nets and trap nets was 8.43 and 7.97 years old, respectively. Both of these mean values are noticeably older than a decade ago. The mean age of fish sampled from both gears increased by almost two years over that time. Fish younger than five were not observed in gill nets in 2008,

although some three and four year olds were sampled from the trap net catch.

Catch curve annual mortality estimated from the age composition from the gill nets was estimated as 63.4% and as 68.3% from the trap nets. The weight-at-age trend appears stable for seven and nine year olds in this QMA but has decreased slightly for younger ages. Generally, growth of lake whitefish in this QMA appears to be have been relatively stable over the last decade.

The cohort model indicates that total annual mortality is relatively low (51%) but that exploitable biomass has declined rapidly since 2004. In fact, the estimate of exploitable biomass in 2008 was only 36.6% of what it was in 2004. Additionally, the percentage of exploitable biomass harvested by the commercial fishery in 2008 was very high with close to a third of to available biomass being harvested (32.8%).

The SCAA model suggests that total mortality is not excessive and that fishing mortality is generally low. The SPR of 0.6 suggests that the current level of fishing in this zone is unlikely to be impacting the reproductive potential of the stock. The exploitable biomass to harvest ratio (EB:H) over the last several years has been fairly low (10-12%) but it is expected to rise in 2009 to 18% if the current harvest levels are maintained. The rise in EB:H ratio is a direct result of poor recruitment in recent years. There continues to be a noticeable shift in the demographics of the whitefish in this QMA with fewer young fish in the catch. Currently, fish less than six years of age make up a small proportion of the harvest and fishable biomass. As a consequence, both total and spawning biomass have dropped sharply in recent years. The current estimates of exploitable biomass are less than half of the peak values (2002).

Summary and Recommendation

Harvest from this QMA continues to be noticeably lower than a decade ago. Reported CPUE has been declining in trap nets but has stabilized in gill nets after declining for several years. Recruitment in the northern half of the lake continues to be very uncertain and there were fewer fish of ages five and six in the catch, especially from gill nets. As a result, estimated biomass continues to decline in this QMA, although indicators used to evaluate stocks appear to be variable. Despite the decline in total biomass, exploitation does not appear to be excessive in this QMA with total mortality, EB:H ratio and SPR all below the upper threshold used by UGLMU for management of exploited lake whitefish stocks.

RECOMMENDATION: **No Change**

Lake Whitefish QMA 4-3

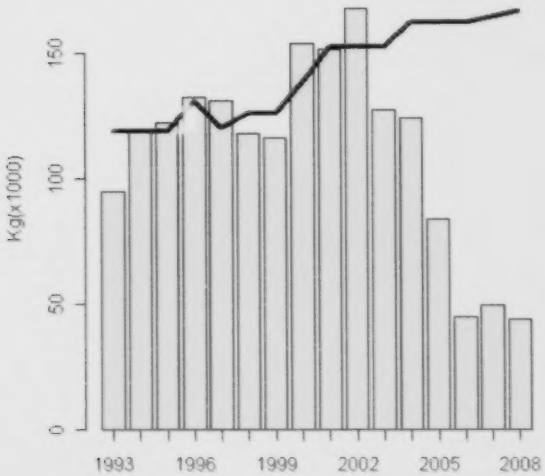

Figure 7. Lake whitefish quota (line) and harvest (bars) from management area 4-3.

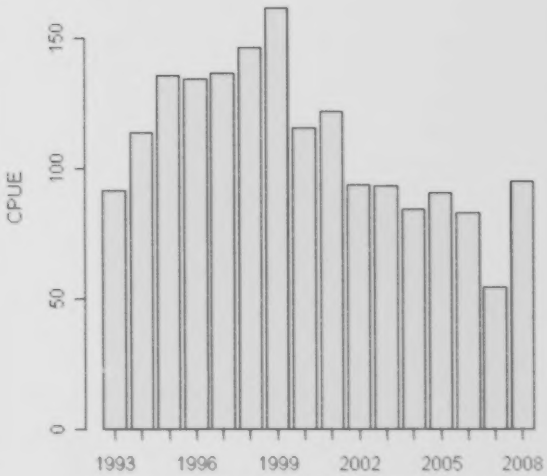

Figure 8. Lake whitefish gill net CPUE (kg/km) for management area 4-3.

Harvest in this QMA is down from 2007 and is noticeably lower than the period prior to 2005 (Fig.7). Virtually all of the lake whitefish harvest in this zone comes from lake whitefish-targeted efforts. Generally, CPUE has been declining in this QMA over the past decade, but the overall CPUE for 2008 was noticeably higher than 2007, and slightly higher than the CPUE values reported between 2001 and 2006 (Fig.8).

Biological attributes were collected from 273 fish sampled from the catch in this QMA. The sampled gill net catch was made up of nine age classes ranging from age four to 12 years, with age eight and nine year olds dominating. The mean age was 8.21, within the range observed over the past decade. Very few fish younger than six years old were observed in the catch. Catch curve annual mortality from gill nets was estimated as 71.3%. Weight-at-age for harvested lake whitefish in this zone has stabilized since 2001 although it continues to be much lower than during the 1980's and 1990's.

The cohort model suggests that both the total annual mortality (A = 49.8%) and the percentage of the fish harvested by the commercial fishery (14.0%) in this QMA are relatively low. However, the estimate of exploitable biomass has fallen noticeably since 2004, and in 2008 was 46.3% of what it was in 2004.

The SCAA model for this QMA suggests that exploitation continues to be extremely low relative to the estimated biomass that is available to the fishery for this area. Over the last three years, the fishery has harvested less than 5% of the exploitable biomass. Consequently, fishing mortality is generally low (F_g = 8.6%) and is a relatively small component of the total mortality for lake whitefish in this zone (A = 38%). Like other QMAs in the northern half of the main basin, recruitment into the fishery continues to be a concern, with fish less than six years of age being rare in the harvest. Unlike QMAs to the northwest, the fishery in this QMA saw some recruitment from the 2000 to 2002 year classes, which contributed substantially to the available biomass in recent years. Unfortunately, there is little evidence of subsequent year classes and as such, total estimated biomass is declining. At the current exploitation rate, fishing does not appear to be impeding the reproductive potential of the stock (SPR = 0.7). If harvest levels increased to the 2008 quota level, it is estimated that between 15% and 20% of the exploitable biomass would be harvested in 2009.

Summary and Recommendation

Mortality from the catch curve is above the threshold used by the UGLMU for the management of exploited lake whitefish stocks, although total mortality estimated by the SCAA and cohort models are both substantially lower. While estimates of biomass continue to decline in this QMA, EB:H is currently low (<20%). However, could exceed 50% if current quota is achieved. Like the rest of the northern main basin, recruitment is uncertain.

RECOMMENDATION: No Change

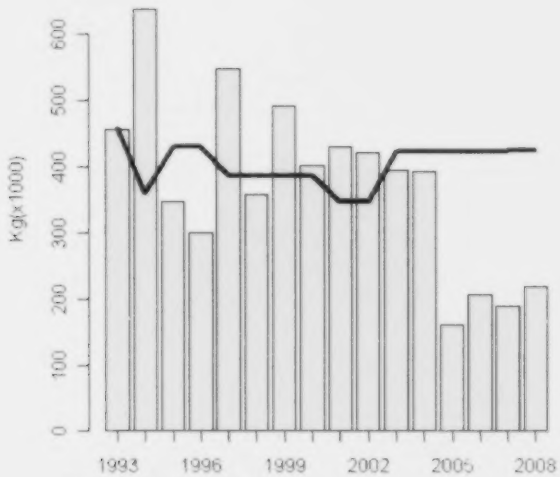

Figure 9. Lake whitefish quota (line) and harvest (bars) from management area 4-4.

Harvest in 2008 was up slightly compared to the previous three years, but it is still noticeably lower than the period prior to 2004 (Fig. 9). There is virtually no harvest from offshore grids in this QMA. The vast majority of all of the whitefish harvest in this QMA is from lake whitefish-targeted efforts, with only a very small amount reported from a number of limited chub-targeted efforts.

Total effort in 2008 was similar to the past three years and is noticeably lower than the period between 2001 and 2004. The mean CPUE has remained fairly stable over the past six or seven years, although it is noticeably lower than 1999, and to a lesser extent, 2000. CPUE is generally highest in the fall, followed by a small peak in May and June.

The sampled gill net catch consisted of nine age classes ranging from age four to 12 years, with ages seven, eight, and nine dominating. The mean age was 7.79. The mean age of the catch has varied between 7.59 and 8.63 during the last decade with a decrease of almost one year in 2008 reflecting an increase in the proportion of younger ages sampled from the catch. The 1999, 2000, and 2001 year classes are the most abundant in the catch. Catch curve annual mortality (A) from gill nets was estimated as 65.7%. Generally, weight-at-age appears to have been fairly stable since 2001, although there appears to have been an increase in recent years for five year olds (for QMAs 4-4 and 4-7 combined).

The UGLMU's Offshore Index in this QMA suggests that the relative abundance of lake whitefish in this QMA is noticeably lower than between 1997 and 1999. In fact, the CPUE for 2008 was lower than any year in the previous 15 years (Fig. 10). Perhaps more importantly, the age composition of the catch in the index nets has changed markedly in recent years with young fish being essentially absent in the most recent surveys (Fig. 11). In terms of year classes, the 2003 year class is the only recent cohort that has had a PRI value greater than 10, all of the other cohorts between 2000 and 2007 appear to be below average in abundance. In fact, whitefish from the 2006 and 2007 year classes have yet to be observed in this index program suggesting that they are particularly weak.

The cohort model indicates that total annual mortality is relatively low (A = 48.2%) and the percentage of the fish harvested by the commercial fishery is not particularly high at current harvest levels (22.7%). Although the estimate of exploitable biomass has declined steadily after 2000, the decline has not been especially rapid until after 2006. If the harvest increased to the 2008

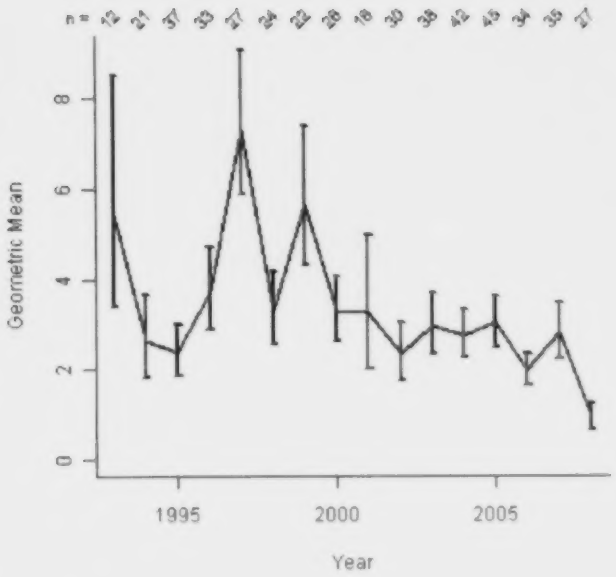

Figure 10. Line graph showing trend through time of the catch of lake whitefish in the UGLMU's central Lake Huron Offshore Index 1993 to 2008. The solid line indicates the mean catch (fish/index net).

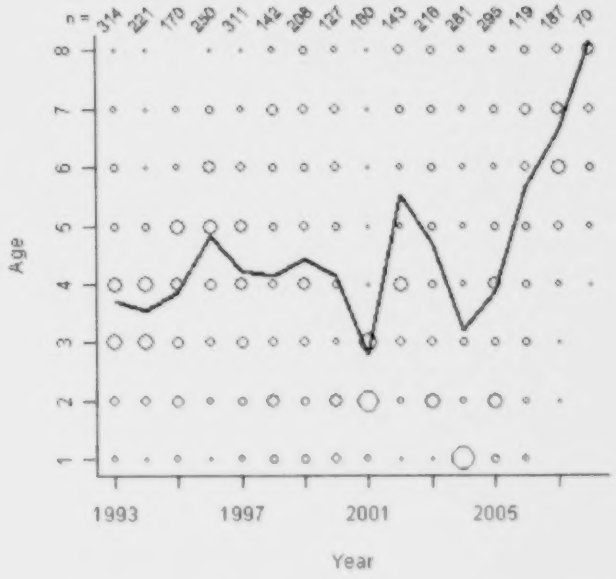

Figure 11. Bubble plot of the age distribution of lake whitefish caught in the UGLMU's central Lake Huron Offshore Index 1993 to 2008. The size of each bubble is proportional to the contribution of that age to the catch in that year. The solid line indicates the mean age of the catch.

quota levels, the cohort model suggests that more than 50% of the available biomass would be harvested in 2009.

The SCAA models suggest that the biomass of lake whitefish in QMA 4-4 and 4-7 has risen sharply in recent years and is currently above any other period in the time series. The bulk of this increase is attributable to the strong recruitment of the 2001-2003 year classes (five to seven year olds in 2008). While fish from these year classes are present in the catch, there is little empirical data to suggest that they are exceptionally strong, and therefore, their contribution to the biomass (and subsequent harvest) is highly uncertain. As such, the reference points estimated from the SCAA model should be interpreted with caution. The SCAA models suggests that the current level of exploitation in this QMA is fairly light (F_g = 10.4%, A = 37% and the EB:H = 0.03) and is unlikely to be impeding the reproductive capacity of the stocks in this part of the lake (SPR = 0.77). If harvest levels increased to the 2008 quota level for QMAs 4-4 and 4-7 combined, it is estimated that between 6% and 8% of the exploitable biomass would be harvested in 2009.

Size-at age appears to be recovering to some extent, and the age composition of the catch is trending towards younger fish (at least in 2008).

Summary and Recommendation

Catch curve mortality is higher than total mortality estimated by either of the age-structured models, and the former is at the upper threshold used by UGLMU for exploited lake whitefish stocks. The strong recruitment of the 2003 year class is expected to continue and biomass may increase in the short-term as these fish continue to grow. However, recruitment of subsequent year classes is a concern, as the independent index netting suggests that subsequent year classes are exceptionally weak. Finally, although exploitation rate is currently moderate, it is estimated that the EB:H ratio would increase to more than 50% if the current quota was achieved in 2009.

RECOMMENDATION: -10%

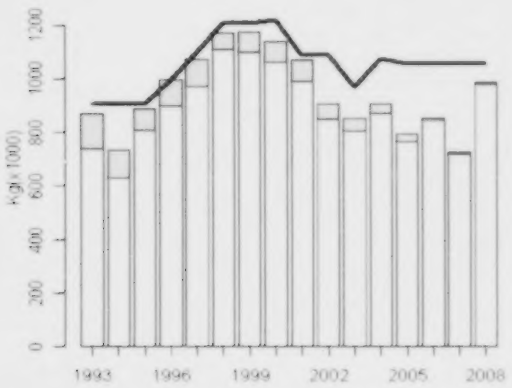

Figure 12. Lake whitefish quota (line) and harvest (bars) from management area 4-5

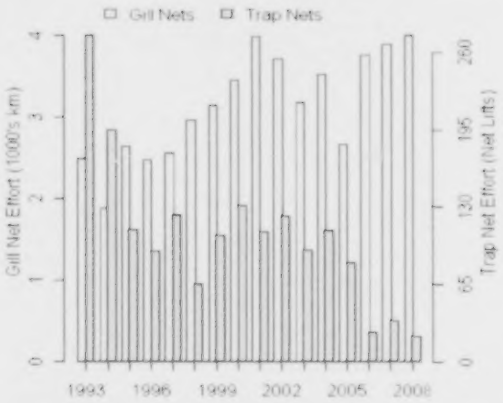

Figure 13. Lake whitefish targeted effort by gear for management area 4-5

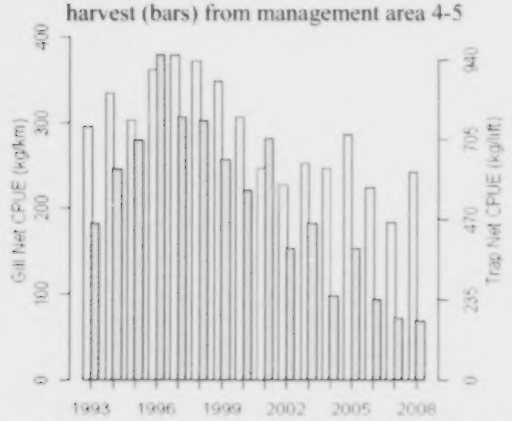

Figure 14. Lake whitefish CPUE by gear for management area 4-5

Lake whitefish harvest from 2008 is noticeably higher than the period from 2002-2007, although it continues to be below the peak harvests reported between 1998 and 2000 (Fig. 12). Virtually all of the lake whitefish harvest in this QMA is from lake whitefish-targeted efforts. In 2008, small harvests were reported from walleye-targeted efforts in September and October. Just over 93% of the issued quota was harvested from this QMA in 2007.

Overall, the 2008 gill net effort was up for the fourth year in a row, and it was among the highest values reported in this QMA in the past 15 years although the intensity of the trap net fishery has dropped off substantially in recent years (Fig. 13).

Gill net CPUE values from 2007 are noticeably lower than other years. CPUE has been trending downward over the past 12 years, although the mean value for 2008 increased and does not appear to be different than those values reported for 2000-2004, and 2006 (Fig. 14).

Biological attributes were collected from 1,377 fish sampled from the gill net catch and 120 fish sampled from the trap net catch. The sampled gill net catch included 13 age classes ranging from age one to 13 years, with age seven, eight, and nine dominating. The sampled trap net catch included nine age classes ranging from age four to 13 years, with age eight, nine, and ten dominating. The mean age of the fish sampled from the gill nets was 7.70 while the mean age in the trap nets was 9.05. The age range of the catch appears to have been stable over the last decade, with the mean age remaining between 7.04 and 7.83 during this time from gill nets. The trap net catch age structure has been more variable with a noticeable increase from 6.74 in

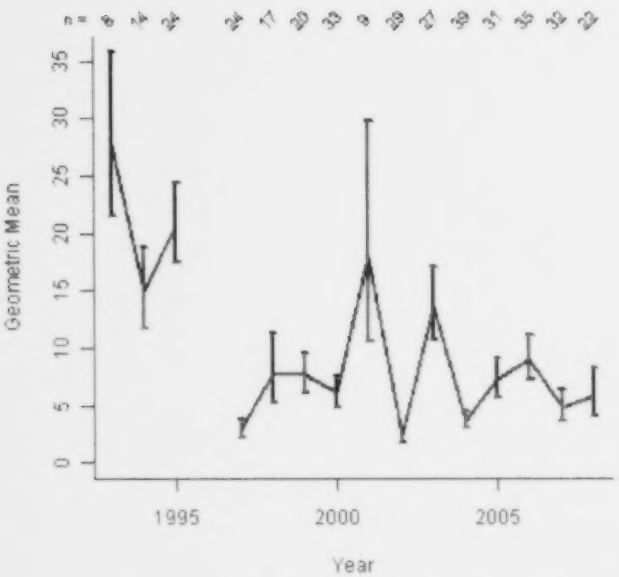

Figure 15. Line graph showing trend through time of the catch of lake whitefish in the UGLMU's southern Lake Huron Offshore Index from 1993 to 2008. The solid line indicates the mean catch (fish/index net).

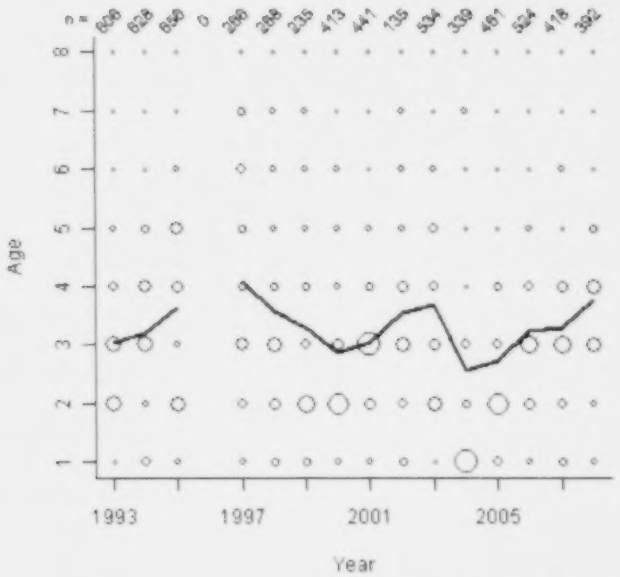

Figure 16. Bubble plot of the age distribution of lake whitefish caught in the UGLMU's southern Lake Huron Offshore Index 1993 to 2008. The size of each bubble is proportional to the contribution of that age to the catch in that year. The solid line indicates the mean age of the catch.

2007 to 9.05 in 2008, although reduced effort and smaller sample sizes in recent years likely contribute to this variability. The 1999, 2000, and 2001 year classes are the most abundant in the catch. Catch curve annual mortality (A) from gill nets was estimated as 63.2%. While the annual mortality estimate from trap nets age composition was 47.0%. The weight-at-age trend was declining for many years until 2001, after which time it has been fairly stable with a slight increase in 2008 for most age classes. In general, growth of lake whitefish appears to have stabilized in this part of the lake.

The current estimate of total annual mortality from the cohort model is moderate at 52.8%, which is down from its recent high in 2004 at 65.7%. However, the estimate of exploitable biomass has dropped continuously after 2005 and the percentage of fish harvested by the commercial fishery has increased. If fish as young age four are included in the total exploitable biomass estimate, the ratio of harvest to available biomass for 2008 was still very high at 66.2%. In general, the estimated exploitable biomass has declined in this part of the lake throughout the past decade.

In contrast, the SCAA models indicate that the biomass of lake whitefish in southern Lake Huron has risen rapidly over the past five or six years thanks to the strong recruitment of the 1999-2001 year classes and more recently, the 2004-2005 year classes. Like the model for QMA 4-4, the estimated biomass for this QMA is higher than any time over the past 25 years. The current level of exploitation appears to be light (A = 40%, F_g = 14.7%, F_i = 0.00, F:M = 0.51) and it is unlikely to be negatively influencing the reproductive capacity of the stocks (SPR = 0.60). The SCAA model estimates that over the last four years, between 5% and 10% of the exploitable biomass has been harvested annually. If harvest remains unchanged in 2009, it is estimated that 8% of the exploitable biomass will be harvested.

The mean CPUE of lake whitefish in index nets set in southern Lake Huron was up slightly from 2007, but still within the range observed over the past decade (Fig. 15). The mean ages of lake whitefish caught in the index program has been trending upwards for the past four years, as the relatively strong 2003 to 2005 year classes continue to appear

in the catch (Fig. 16). There continues to be a large number of the age classes present in the index catch. Following the 2003 year class, the 2004, 2005 and 2007 year classes all appear to be larger than average with PRI values in excess of 10.

Summary and Recommendation

While the age structure models give conflicting pictures of stock dynamics in this QMA, and mortality estimates from catch curves are close to the upper threshold used by UGLMU for exploited lake whitefish stocks, there are signs that several year classes with average or above average strength about to enter the fishery in this part of the lake. Fish younger than three years of age were observed in larger numbers in the fishery for the first time in several years in this QMA and the index program suggests that the recruitment strength of several upcoming year classes is above average.

RECOMMENDATION: +10%

Lake Whitefish QMA 4-7

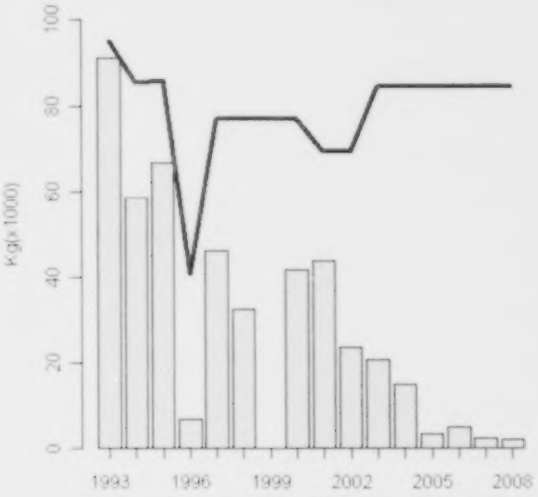

Figure 17. Lake whitefish quota (line) and harvest (bars) from management area 4-7.

Harvest continues to be very low in this QMA. Harvest declined steadily between 2001 and 2005, and has remained essentially unchanged since that time (Fig. 17). Since 2005, harvest has never been more than 6% of the available quota.

Only three fishing efforts were reported for this QMA in 2008 with at least some lake whitefish harvested. Only 11.0 km of gill was deployed in this QMA in 2008. This is the lowest effort reported in this zone since 1999. Effort has been steadily declining in this zone since 2001. Prior to 1995, effort was regularly over 400 km of net per year.

CPUE has generally been trending downward over the past ten years, although the value reported in 2008 was one of the highest in the time series. Mean CPUE continues to be typical of other parts of the lake for lake whitefish-targeted efforts.

Only two fish were sample from the commercial fishery in this QMA.

Summary and Recommendation

Current harvest in this QMA is likely inconsequential to the population, although the disparity between quota and reported harvest continues to be a management concern.

RECOMMENDATION: No Change

Lake Whitefish QMA 5-1

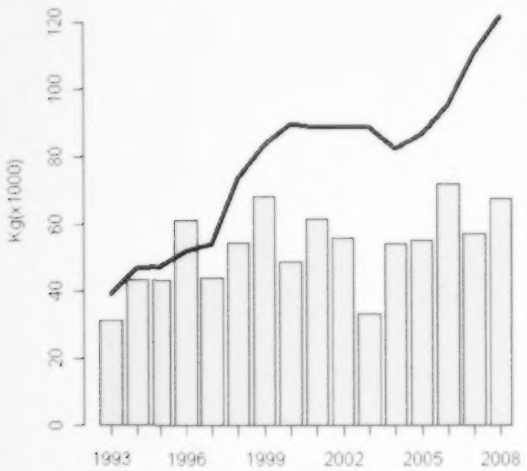

Figure 18. Lake whitefish quota (line) and harvest (bars) from management area 5-1.

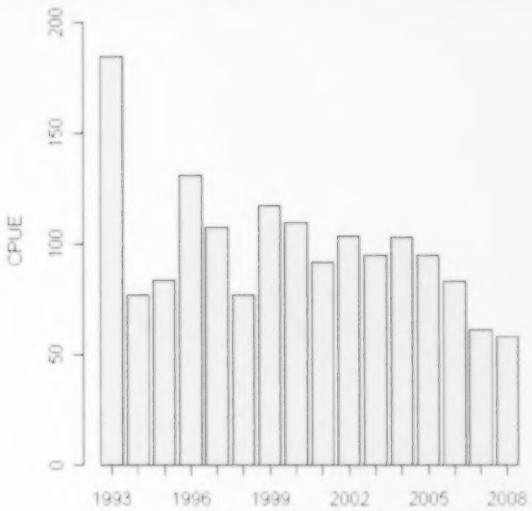

Figure 19. Lake whitefish gill net CPUE (kg/km) for management area 5-1.

Harvest in 2008 was up from 2007 and slightly above the average harvest over last ten years (Fig. 18). Virtually all of the effort targeted lake whitefish.

The mean CPUE has been steadily declining in this QMA over the past four to five years. The mean CPUE reported for 2008 was the lowest reported in 15 years (Fig. 19).

Biological attributes were collected from 550 fish sampled from the commercial fishery. The sampled catch included 12 age classes ranging from age three to 14 years, with age six and seven being the most abundant. The mean age was 7.9, which is noticeably younger than the period between 2003 and 2006 when it ranged from 8.0 to 9.4. The catch from this QMA is often characterized by a wide range of year classes, and this continued in 2008. The 2002 year class was the most abundant in the catch. Catch curve annual mortality, estimated from the age composition was only 30.5% and reflected the even contribution of a large number of ages to the catch.

The cohort model suggested that the total annual mortality for lake whitefish in this QMA is quite low (A = 43.9%). However, there has been a steady decline in the estimate of exploitable biomass after 2003. The estimate of exploitable biomass in 2008 was only 43.2% of what it was in 2003. Despite the decline in total exploitable biomass, the percentage of fish harvested by the commercial fishery is moderate at 25.1%.

Summary and Recommendation

While the catch from this QMA continues to have a very broad age composition, both CPUE and exploitable biomass have been declining steadily in recent years. The cohort model suggests that although the current level of exploitation is not excessive, it may be approaching its sustainable limit.

RECOMMENDATION: **No Change**

Lake Whitefish QMA 5-2

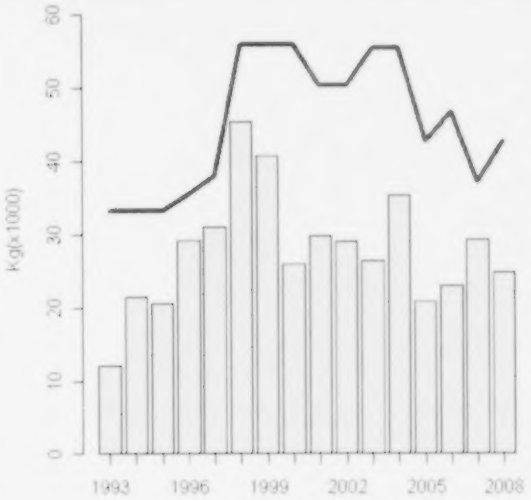

Figure 20. Lake whitefish quota (line) and harvest (bars) from management area 5-2.

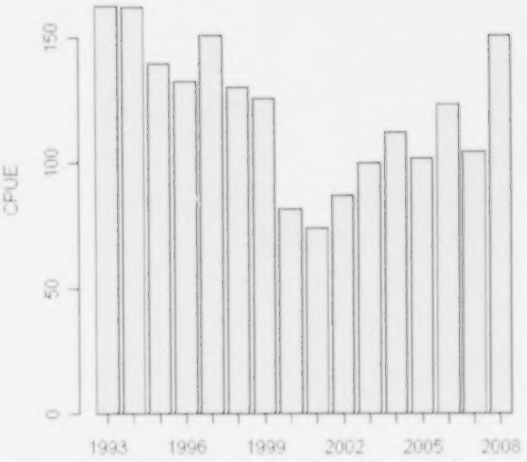

Figure 21. Lake whitefish gill net CPUE (kg/km) for management area 5-2.

Total harvest of lake whitefish from this zone was down from 2007 and was close to the average for the past ten years (Fig. 20). Virtually all of the harvest of lake whitefish comes from lake whitefish-targeted efforts, although small amounts are occasionally reported from walleye-targeted efforts in the fall.

Total large-mesh gill net effort was down in 2008; continuing a long-term trend that extends back to 2001. Spatially, effort was focused on grids close to shore. The total effort has declined and the spatial extent of the effort has contracted in recent years, especially in 2006 and 2008.

In contrast, the mean CPUE has generally been increasing in this QMA. In fact, the mean CPUE in 2008 was higher than any year in the last decade (Fig. 21).

No biological samples have been collected from the commercial catch in this QMA since 2005. This is largely due to the remoteness of the fisheries in this QMA and to the sporadic nature of the fishing effort that occurs in this area. Historically, the age composition of the catch in this QMA has been very similar to that of QMA 5-1, which continues to be characterized by numerous age classes.

Summary and Recommendation

Although CPUE has generally been increasing in recent years, it has been highly variable (often alternating between years). While biological data has not been available from this QMA since 2005, adjacent QMAs in Georgian Bay generally have broad, stable age distributions.

The absence of biological samples from the catch and excessive dormant quota continue to be issues in this QMA.

RECOMMENDATION: No Change

Lake Whitefish QMA 5-3

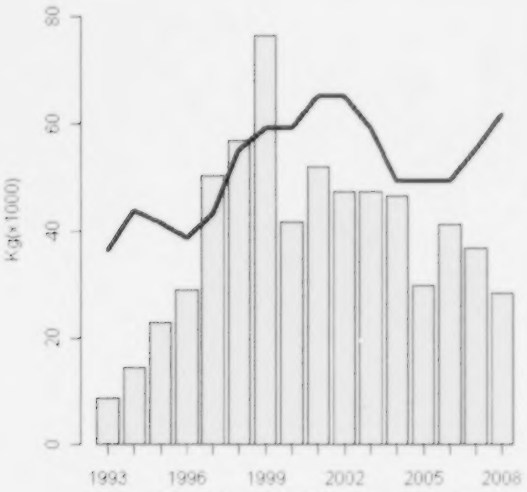

Figure 22. Lake whitefish quota (line) and harvest (bars) from management area 5-3.

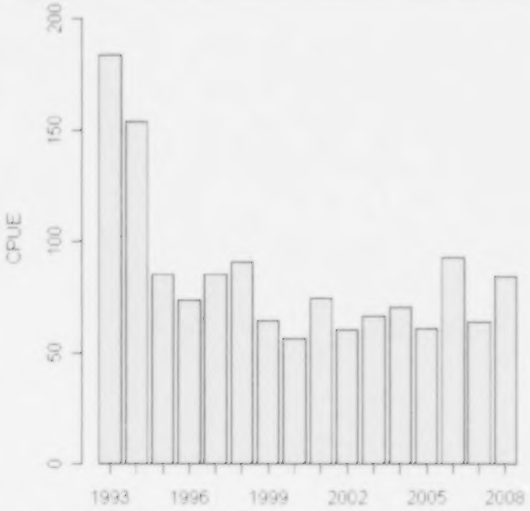

Figure 23. Lake whitefish gill net CPUE (kg/km) for management area 5-3.

Total harvest of lake whitefish dropped in 2008 and was among the lowest values reported for this QMA in the past decade (Fig. 22).

Similarly, effort continues to decline in this QMA. Spatially, effort has always focused around the margins of this QMA, especially adjacent to the Bruce Peninsula, around the Bruce Archipelago, and the south shore of Manitoulin Island. There continues to be fairly heavy effort east of Fitzwilliam Island, but effort near Tobermory has dropped off noticeably.

The CPUE was up in 2008 and was among the highest values reported over the past ten years, but is still well below the values reported during much of the 1990s (Fig. 23).

Biological attributes were collected from 151 fish from the commercial catch in this QMA. The sampled catch was made up of eight age classes ranging from age five to 12 years, with ages seven, eight, and nine dominating. The mean age was 8.18. The mean age of the catch has been close to eight for most of the last decade. The demographic characteristics of the catch have remained fairly stable over that time period. The 1999, 2000, 2001, and 2002 year classes continue to be well represented in the catch. Catch curve annual mortality from gill nets was estimated at 41.3%.

The cohort model suggests that both the total annual mortality (A = 42.6%) and the percentage of the fish harvested by the commercial fishery (14.3%) are relatively low. Both of these factors indicate that the stocks in this QMA are not currently overexploited. Although the estimate of exploitable biomass has declined after 2006, the decline is unlikely severe enough to warrant serious concern given the low mortality and exploitation rates.

Summary and Recommendation

The CPUE has fluctuated without trend for several years but continues to be low relative to the early 1990s. The age composition of the catch is fairly broad and the mean age and other demographic parameters are stable. Exploitation does not appear to be excessive at current harvest levels. Recruitment is uncertain.

RECOMMENDATION: No Change

Lake Whitefish QMA 5-4

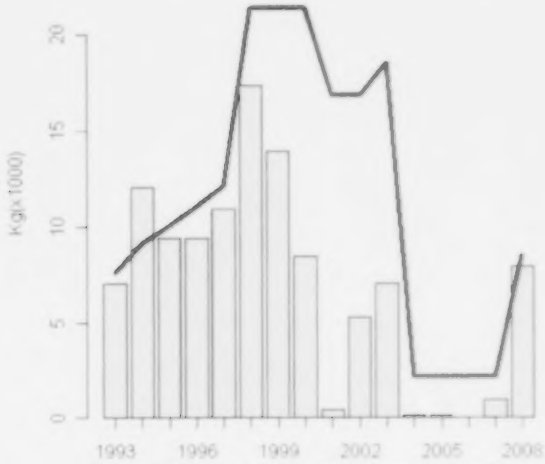

Figure 24. Lake whitefish quota (line) and harvest (bars) from management area 5-4.

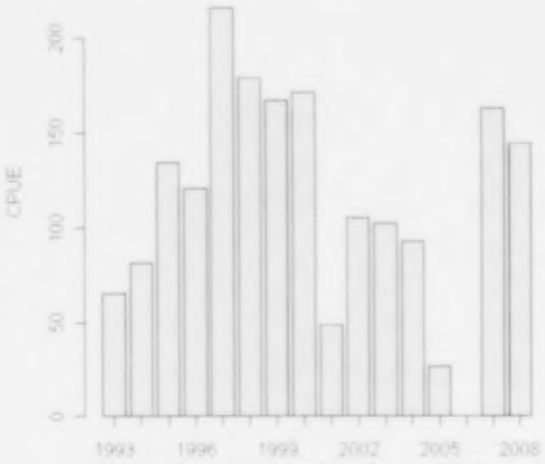

Figure 25. Lake whitefish gill net CPUE (kg/km) for management area 5-4.

Harvest in 2008 increased from 2007 (Fig. 24). All of the harvest in 2008 was from a single five-minute grid.

Effort in this QMA is extremely limited.

CPUE declined slightly from 2007, but remains higher than the period between 2001 and 2006 and is comparable to the period between 1995 and 2000 (Fig. 25).

Biological attributes were collected from 50 fish sampled from the commercial catch in this QMA in 2008. The sampled catch was made up of eight age classes ranging from age five to 13 years, with age seven dominating. The mean age was 7.72. The total annual mortality estimated from the age composition of the catch was 42.0%.

Summary and Recommendation

Fifty fish were sampled in this QMA in 2008; the first catch samples observed in this QMA since 2003. The age distribution appears to be broad and total annual mortality estimate is below the upper threshold used by the UGMLU for exploited lake whitefish stocks.

RECOMMENDATION: **No Change**

Lake Whitefish QMA 5-5

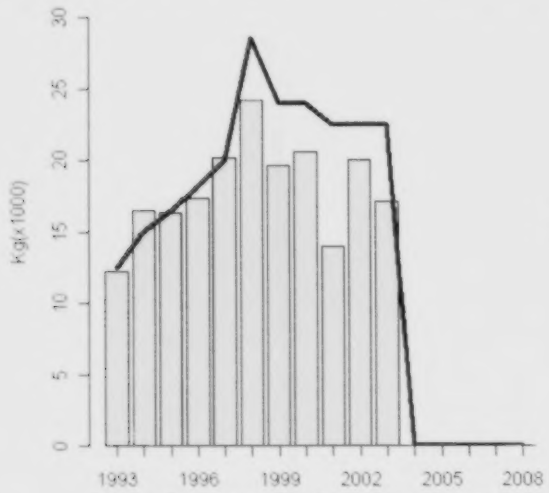

Figure 26. Lake whitefish quota (line) and harvest (bars) from management area 5-5.

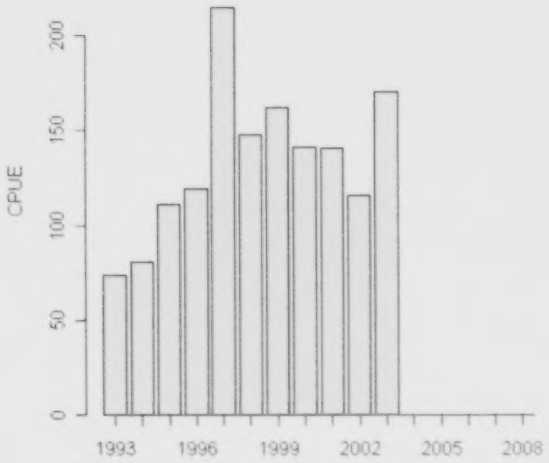

Figure 27. Lake whitefish gill net CPUE (kg/km for management area 5-5.

Summary and Recommendation

There is currently no active fishery in this QMA. There was no lake whitefish harvest or effort reported in 2008.

RECOMMENDATION: **No Change**

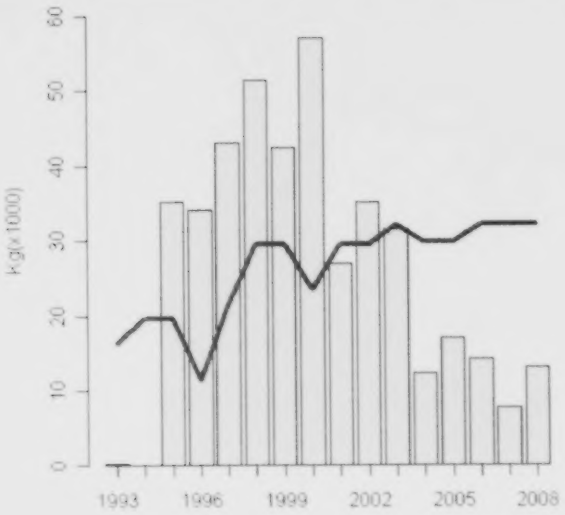

Figure 28. Lake whitefish quota (line) and harvest (bars) from management area 5-6.

Although harvest of lake whitefish was up in 2008 from the previous year, it is still comparable to the harvest levels reported between 2004 and 2007 and well below the harvests reported between 1994 and 2003 (Fig 28). In four of the last five years, less than half of the available quota has been harvested from this QMA. Virtually all of the lake whitefish harvest is from lake whitefish-targeted efforts, although a small amount of lake whitefish harvest was reported from chub-targeted efforts in August of 2008.

Total gill net effort appears to have stabilized after declining from its peak value in 2003, although it is still higher than most years prior to 1995, when effort in this QMA was extremely light (<10 km of net per year).

Mean CPUE of lake whitefish in this QMA is lower than other parts of the lake and has generally been trending downward over the past decade, although the mean CPUE for 2008 was higher than any year since 2000.

The sampled catch was made up of eight age classes ranging from age four to 11 years, with age six and seven dominating. The mean age was 6.98 and has not varied much over the past several years. The 2001 and 2002 year classes were the most abundant in the catch. Catch curve annual mortality from gill nets was estimated as 57.9%.

The cohort model for this QMA suggests that both the total annual mortality and the percentage of vulnerable fish harvested by the commercial fishery are moderate at 43.7% and 17.1%, although the estimate of exploitable biomass did drop in 2008. If harvest levels were to increase to the 2008 quota levels, it is estimated that 58.8% of the available biomass would be harvested by the commercial fishery.

Summary and Recommendation

The CPUE in this QMA is stable but lower than other parts of the lake. Weight-at-age (especially for six and eight year olds) has been declining slowly since 2001. The age composition is fairly broad and total annual mortality is not excessive. Current and projected exploitation rates do not appear to be unsustainable if harvest remains unchanged. However, if harvest increased to 2008 quota levels, the commercial fishery would take more than 50% of the available biomass. Quota continues to be well above realized harvest levels.

RECOMMENDATION: No Change

Lake Whitefish QMA 5-7

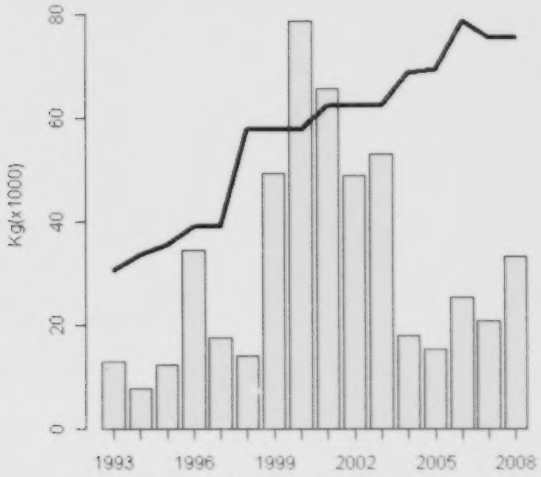

Figure 29. Lake whitefish quota (line) and harvest (bars) from management area 5-7.

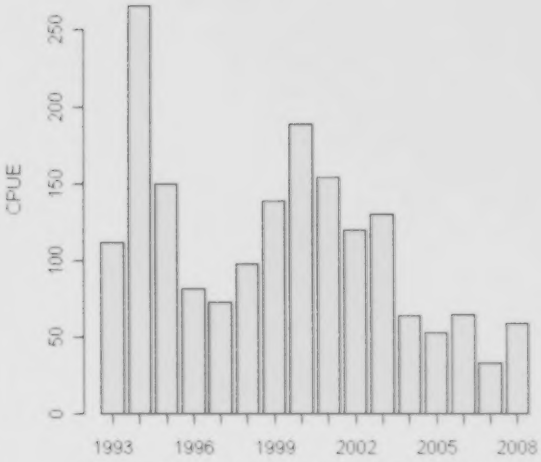

Figure 30. Lake whitefish gill net CPUE (kg/km) for management area 5-7.

Harvest of lake whitefish was up in 2008 compared to the previous four years, but still well below the values reported between 1999 and 2003 (Fig. 29). Virtually all of the lake whitefish harvest is from lake whitefish-targeted efforts.

Effort was down in 2008 from 2007, but it was still noticeably higher than any previous year. Spatially, the effort is usually spread over much of this QMA, except for the northern and western most grids.

CPUE was up in 2008 from the all-time low value reported in 2007, and it is comparable to values reported between 2004 and 2006. The reported CPUE continues to be noticeably lower than any time prior to 2003 (Fig. 30), although this change in CPUE corresponds very closely with a change in mesh size deployed for lake whitefish. Spatially, the grids with the highest CPUE continue to be those immediately adjacent to QMA 5-9.

Biological attributes were collected from 347 fish sampled from the commercial fishery. The sampled catch was made up of seven age classes ranging from age two to ten years, although the bulk of the harvest was seven, eight, and nine year olds. The mean age was 7.77 and has been increasing each year since 2005. Additionally, there appears to be fewer year classes making up the catch in recent years, with no fish observed older than ten in 2008. Catch curve annual mortality from gill nets was estimated as 52.7%.

The cohort model for this QMA suggests that the total annual mortality is relatively low (A = 44.8%) and that the percentage of fish harvested by the commercial fishery is at the upper threshold used by UGMLU for lake whitefish stocks (35.8%). The estimate of exploitable biomass has declined consistently after 2006. The estimate of exploitable biomass in 2008 was 44.0% of what it was in 2006.

Summary and Recommendation

The low number of five and six year old fish in the catch may be a result of the larger mesh sizes fished in this QMA. The mean age of the catch has been slowly increasing since 2005 and the age composition continues to be truncated. Mortality from catch curve analysis was slightly higher than cohort analysis, although neither method suggests that mortality is unusually high. Like other areas without an index program, recruitment in this QMA is uncertain.

RECOMMENDATION: No change

Lake Whitefish QMA 5-8

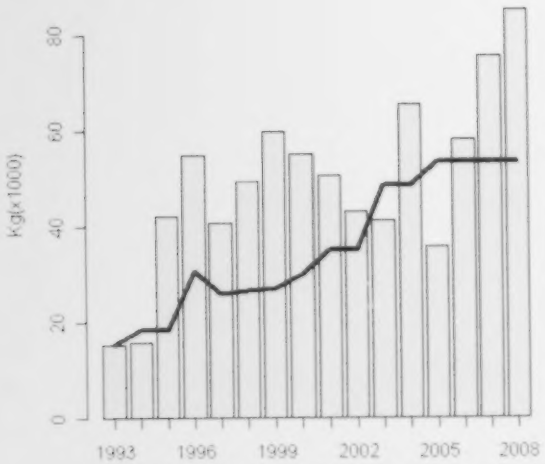

Figure 31. Lake whitefish quota (line) and harvest (bars) from management area 5-8.

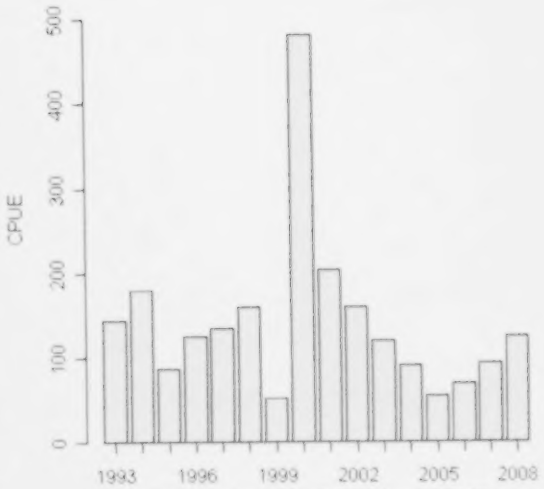

Figure 32. Lake whitefish gill net CPUE (kg/km) for management area 5-8.

Harvest from this QMA in 2008 was higher than any previous year (Fig. 31). This is the third year in a row where harvest has exceeded the harvest of the previous year. This is consistent with a general increasing trend extending back to the mid-1990s.

Total effort was down in 2008 relative to 2006 and 2007, although it continues to be well above the levels reported prior to 2004.

The CPUE in this QMA tends to be lower than some of the other parts of the lake. After declining between 2000 and 2005, CPUE has been steadily increasing in recent years, although it is well below the peak value reported in 2000 (Fig. 32).

Only 36 fish were sampled from the commercial catch in 2008. Due to the small number of fish sampled, interpretation of the population demographics should be considered cautiously. Despite the small sample size, catch was made up of seven age classes ranging from age four to 14 years, with age seven and eight dominating. The mean age was 7.44 and has increased by one full year since 2004. The 2000 and 2001 year classes continue to be most abundant in the catch. Catch curve annual mortality from gill nets was estimated as 72.3% although this is based on extremely small sample size. Weight-at-age declined from 2002 to 2005 but has since stabilized with the exception of five year olds (which continued to decline).

The cohort model suggests that the total annual mortality is relatively low (A = 43.5%). However, the estimate of exploitable biomass has fallen dramatically since 2006. The estimate of exploitable biomass in 2008 was 43.7% of what it was in 2006. Furthermore, the percentage of fish harvested by the commercial fishery is currently relatively high (40.9%).

The SCAA model using data exclusively from QMA 5-8 failed to converge and produce biologically plausible results. Consequently, the 5-8 SCAA model was not used for Status of Stocks purposes this year. Alternatively, a model that incorporated data from 5-8 and 5-9 converged and produced reliable and stable parameter estimates. This model was used to provide insights into the population dynamics of lake whitefish in southern Georgian Bay as a whole.

The SCAA model generated from the combined QMA 5-8 and 5-9 data suggests a similar pattern as QMA 5-9 data alone. Biomass declined in 2008, largely due to small contributions from the 2003 and 2004 year classes. The 2001 year class continues to form the bulk of the biomass in these QMAs. Total annual mortality is currently above the upper threshold used by the UGMLU (A = 49.8%), and fishing mortality exceeds natural mortality (F_g = 28.1%, F:M = 1.17). Despite the relatively high

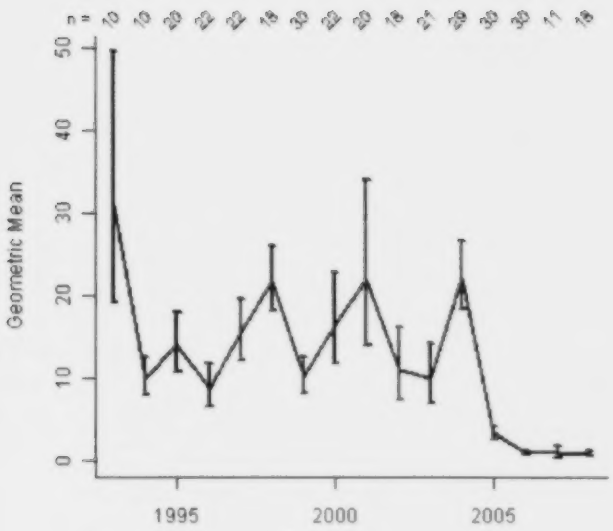

Figure 33. Line graph showing trend through time of the catch of lake whitefish in the UGLMU's southern Georgian Bay Offshore Index 1993 to 2008. The solid line indicates the mean catch (fish/index net).

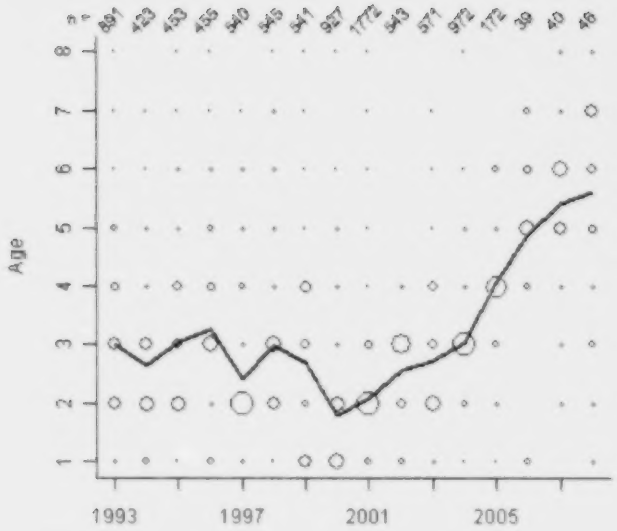

Figure 34. Bubble plot of the age distribution of lake whitefish caught in the UGLMU's southern Georgian Bay Offshore Index 1993 to 2008. The size of each bubble is proportional to the contribution of that age to the catch in that year. The solid line indicates the mean age of the catch.

mortality levels, the SCAA model suggests the current level of exploitation is unlikely to be inhibiting the reproductive capacity of the stocks in this part of Georgian Bay (SPR = 0.34). However, this is one of the lowest SPR's on the lake. Over the past four years, the commercial fishery in these two QMAs has harvested between 15 - 25% of the available biomass on an annual basis. If harvest remains unchanged in 2009, it is expected that the proportion of the harvest will rise to more than 30% of the exploitable biomass.

The UGLMU's Offshore Index in this QMA suggests that the relative abundance of lake whitefish continues to be depressed in this part of the lake. The mean CPUE observed in 2008 is consistent with the values from 2005 to 2007, all of which are noticeably lower than all previous years (Fig. 33). The drop in relative abundance is largely attributable to the virtual absence of young fish in recent surveys (Fig. 34). All of the year classes following the 2001 cohort have had a PRI value well below ten. In fact, the 2004, 2006, and 2007 year class have PRI values of zero.

Summary and Recommendation

CPUE continues to increase in this zone and is in sharp contrast to other indicators used to evaluate stocks in this QMA. Index netting continues to suggest that recruitment is very poor in southern Georgian Bay. Although sample size was low in 2008, the age composition continues to show signs of constriction, with few young or old individuals. Additionally, mean age in the commercial catch has increased by one full year since 2004 and is consistent with reduced recruitment. Cohort modelling suggests that total annual mortality is not excessive, but that exploitable biomass is likely to decline in future years. Current and forecasted harvest rates are well above the 35% threshold.

RECOMMENDATION: -10%

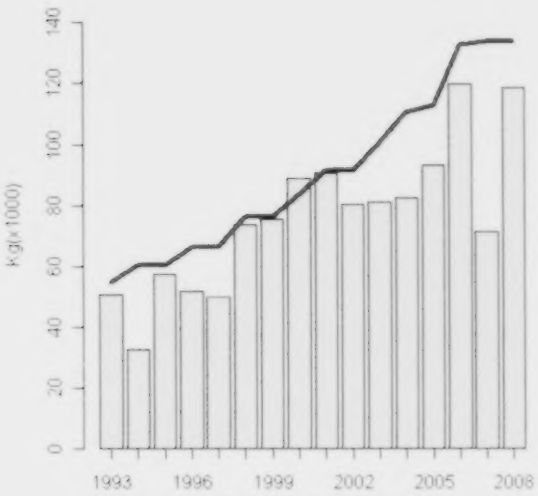

Figure 35. Lake whitefish quota (line) and harvest (bars) from management area 5-9.

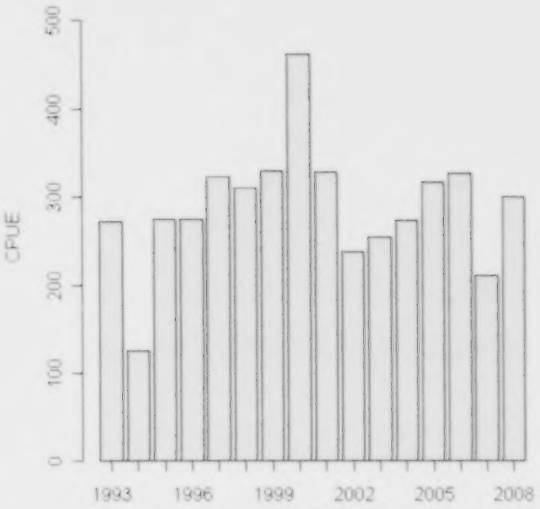

Figure 36. Lake whitefish gill net CPUE (kg/km) for management area 5-9.

Harvest of lake whitefish in 2008 was up notably from 2007 and is close to the all-time high reported in 2006 (Fig. 35). Most of the harvest is from the western-most grids, northeast of Collingwood.

Effort was up in 2008 relative to 2007 and was the highest annual effort ever reported for this QMA.

CPUE was up in 2008 relative to 2007, and is comparable to the average CPUE reported over the past four or five years. The CPUE in this QMA continues to be among the highest on the lake (Fig. 36).

Biological attributes were collected from 351 fish sampled from the commercial fishery. The sampled catch was made up of eight age classes ranging from age five to 12 years, with age seven dominating. The mean age was 7.34 and was the oldest mean age ever observed in his QMA. Additionally, there has been a trend towards fewer age classes since 2002. In 2008, there were few fish observed with ages less than age six or older than nine. The 2001 year class made up the majority of the catch, followed by the 2000 year class. Annual mortality from the catch curve was estimated at 70.3%, which is above the upper threshold used by UGMLU for the management of exploited lake whitefish stocks. Weight-at-age trended downward between 1991 and 2006 but has since stabilized.

The cohort model for this QMA suggests that total annual mortality is moderate (A = 49.1%). However, the percentage of fish that are harvested by the commercial fishery is relatively high (41.4%) and the estimate of the exploitable biomass has declined steadily after 2006. The estimate of exploitable biomass in 2008 is only 42.3% of what it was in 2006.

The SCAA models suggest that the decline in total biomass in QMA 5-9 appears to be largely attributed to the relatively small contribution of five and six-year-old fish to the population and the gradual decline of the 2001 year class, which has been very strong over the last couple of years. Throughout the 1990s, five and six year old fish formed the bulk of the biomass in this QMA, but they currently represent a relatively small proportion of available population. Conversely, current exploitation levels do not appear to be excessive (A = 42.8%, Fg = 18.1%, and SPR = 0.40). When combined, the data for QMAs 5-8 and 5-9 suggest a similar pattern as 5-9 alone. Biomass declined in 2008 largely due to the small contribution of the 2003 and 2004 year classes. The 2001 year class continues to form the bulk of the biomass in these QMAs. However, total mortality

is currently above the upper threshold used by the UGMLU (A = 49.8%), and fishing mortality exceeds natural mortality (F_g = 28.1%, F:M = 1.17). Despite the relatively high mortality levels, the current level of exploitation does not appear to be inhibiting the reproductive capacity of the stocks in this part of Georgian Bay (SPR = 0.34). However, this is one of the lowest SPR's of any QMA. Over the past four years, the commercial fishery in QMAs 5-8 and 5-9 has harvested between 15 – 25% of the available biomass on an annual basis. If harvest remains unchanged in 2009, it is expected that the harvest will consume more than 30% of the available lake whitefish biomass.

Summary and Recommendation

The age composition of the catch continues to be dominated by the 2001 year class. Younger fish are rare. There is little evidence of subsequent year classes and weight-at-age continues to be depressed. The total mortality estimate from catch curve analysis and the SCAA models are both above the upper threshold used by UGLMU for managing exploited lake whitefish stocks. Estimates of exploitable biomass are trending downward and current levels of exploitation are above the 35% threshold.

RECOMMENDATION: -10%

Lake Whitefish QMA 6-1

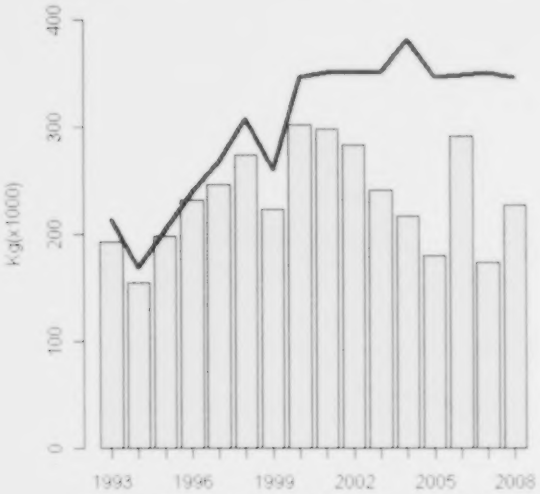

Figure 38. Lake whitefish quota (line) and harvest (bars) from management area 6-1.

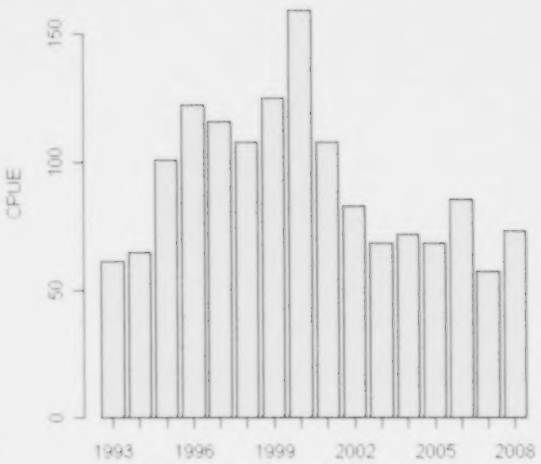

Figure 39. Lake whitefish gill net CPUE (kg/km) for management area 6-1.

Harvest in 2008 was up from 2007 but it was still lower than the harvests reported in 2006 or the period between 1999 and 2003 (Fig. 38).

Total gill net effort was up in 2008 compared to 2007 and it was comparable to the effort levels reported over the past eight years.

Although the mean CPUE from 2008 was up from 2007, CPUE has generally been trending downward in this QMA over the past decade (Fig. 39).

Biological attributes were collected from 1,622 fish sampled from the commercial catch. The catch was made up of 11 age classes ranging from age three to 13 years, with age five, six, and seven dominating. The mean age was 6.40 in 2008, which is largely unchanged for the past decade. The demographic characteristics of the lake whitefish harvested from this QMA continue to be noticeably different from other parts of the lake. The mean age is at least one full year younger and three, four, and five year old fish continue to be well represented in the catch. Annual mortality estimated from the age composition of the catch in 2008 was estimated as 47.6%. Weight-at-age generally trended down between 2002 and 2004 but has since recovered.

The cohort model suggests that total annual mortality is moderate (A = 56.0%) and the estimate of exploitable biomass has been stable for the past two years (2006 and 2007). Additionally, the cohort model indicates that the percentage of fish harvested by the commercial fishery is relatively high (35.4%).

The SCAA model for this QMA continues to suggest that stocks in the North Channel are more heavily exploited than other parts of the lake. Total mortality is well above the upper threshold used by the UGMLU for lake whitefish management (A = 52.3%) and fishing mortality is close to natural mortality (F_g = 27.4%). Despite the high level of exploitation, the reproductive capacity of the stock does not appear to be impaired (SPR = 0.33), although the SPR value is among the lowest on the lake. Total exploitable biomass is actually expected to increase in 2009, due to a large contribution from the 2003 year class. However, the total exploitable biomass is still much lower than a decade ago, and there is relatively little empirical evidence to verify the strength of the 2003 - 2005 year classes in this QMA. Over the past five years, the commercial fishery has harvested between 10 – 20% of the available biomass (fish age five and older) annually and this is expected to continue in 2009 if harvest rates remain unchanged. The mean age of lake whitefish harvested in this QMA is noticeably younger than other parts of the lake (5.9 in QMA 6-1 versus close to 9.0 in most other QMAs).

Summary and Recommendation

The age composition continues to be fairly broad with evidence of future year classes. Total mortality estimated from both cohort and catch curve analyses does not appear to be excessive, although the total mortality from the SCAA model is noticeably higher. The mean age of the harvested fish from this QMA is younger than most other parts of the lake. Both the SCAA and cohort models suggest that biomass in this QMA has been slowly declining since 2000, but increased slightly in 2008, largely due to the recruitment of the 2003 year class. The strength of subsequent year classes is uncertain.

RECOMMENDATION: No Change

Lake Whitefish QMA 6-3

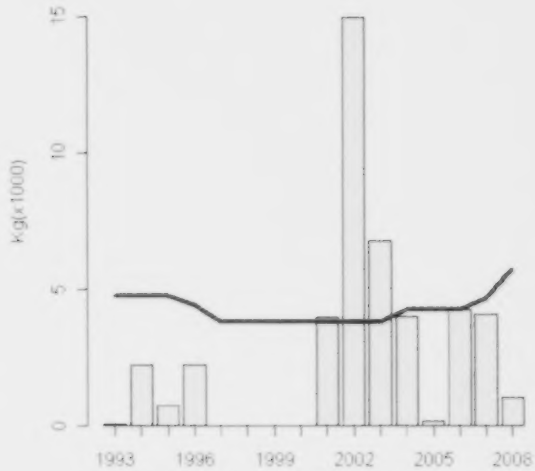

Figure 40. Lake whitefish quota (line) and harvest (bars) from management area 6-3.

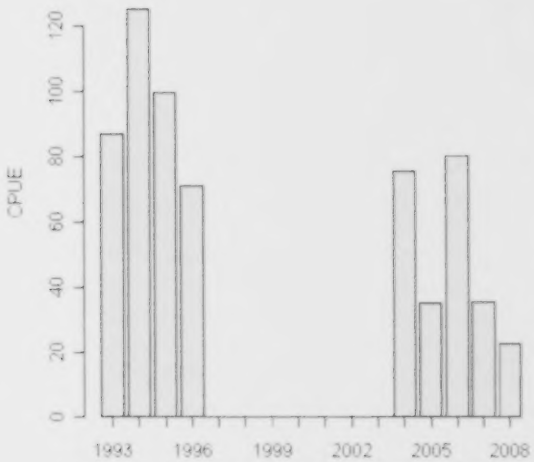

Figure 41. Lake whitefish gill net CPUE (kg/km) for management area 6-3.

Harvest was down noticeably in 2008 and was among the lowest harvest levels reported from this QMA in the past eight years (Fig. 40).

Despite an increase in available quota in this QMA in 2008, total effort dropped from 2007. All of the effort was deployed in the southeastern most grid of this QMA. The small amount of effort makes it difficult to assess seasonal trends in the fishery. When fishing has occurred in the past decade, it is generally limited to July, August, and September.

CPUE was down again in 2008, and was the lowest value reported over the past 15 years, although there were a number of years where CPUE was not reported at all. CPUE for lake whitefish in this QMA continues to be among the lowest on the lake (Fig. 41).

Summary and Recommendation

There is an extremely small fishery with limited effort in this QMA in recent years. The absence of data makes assessment challenging, but current exploitation levels are unlikely to be adversely affecting the lake whitefish stocks in this QMA.

RECOMMENDATION: No Change

Bloater (Deepwater Chub) – Overall

There was no harvest of deepwater chub in Lake Huron this year. There continues to be little or no recruitment of deepwater chub to commercial fishing gear in Lake Huron.

The UGLMU's Offshore Index data suggests that commercial-sized deepwater chub continue to be rare. The reason for the absence of large deepwater chub is not entirely clear. It may reflect a shift in the offshore fish community as a response to the widespread establishment of non-native species such as zebra and quagga mussels, a response to loss of *Diporeia* throughout most of Lake Huron, or possibly a response to increasing numbers of large, native predators.

The PRI for the southern Lake Huron Offshore Index suggests that the 2003 and 2004 year classes are both strong, although it will be several years before they recruit to commercial fishing gear.

Summary and Recommendation

There is no indication that deepwater chub abundance has increased to the point that fully allocated harvests are possible.

RECOMMENDATION: 50% of BASE (lake wide)

Walleye - Overall

Walleye quotas for the commercial fishery are managed in two ways in Lake Huron: as production quotas and as incidental quotas. Production quota areas are those with self-sustaining populations large enough to allow targeted harvesting. These include QMAs 4-5, 5-1, 5-2, 5-7, and 6-1. In all other QMAs, small walleye quotas have been allocated to allow for their occasional incidental capture while targeting other species, in most cases lake whitefish or yellow perch. The status of stocks in the QMAs where walleye are managed using incidental quotas are not discussed further.

On a lake wide basis, the harvest of walleye has decreased slightly for the second year in a row, although it is still consistent with harvest levels reported over the past decade. Despite the overall decrease, the gill net harvest of walleye in QMA 4-5 is still the highest it has been in 13 years; gill net effort is at its highest in 11 years, and CPUE is at its all-time high in this QMA. The increase in both harvest and CPUE from southern Lake Huron is largely attributable to the recruitment of the 2003 and to a lesser extent, the 2005 year classes. In contrast, Georgian Bay walleye harvest declined slightly in 2008. In the North Channel, harvest decreased slightly but CPUE in targeted effort continues to be higher than any at time between 1993 and 2005 as recent strong year classes continue to recruit to the commercial fishery.

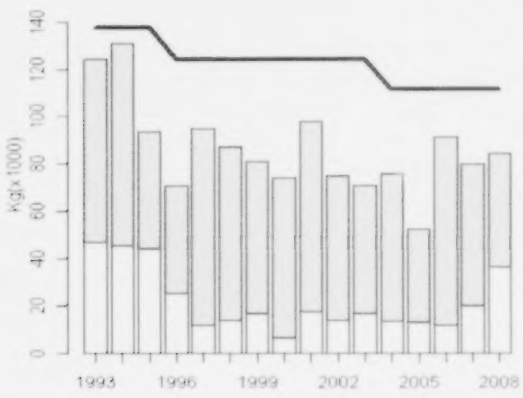

Figure 42. Walleye quota (line) and harvest (bars) from management area 4-5.

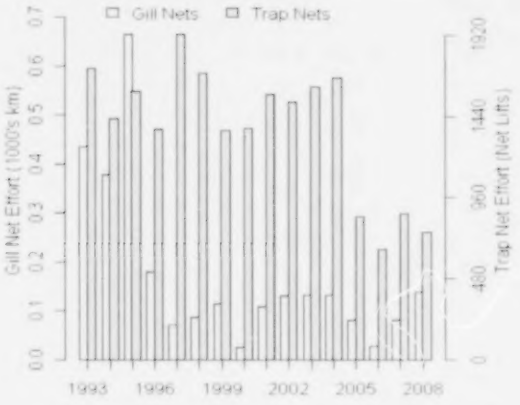

Figure 43. Walleye targeted effort by gear for management area 4-5.

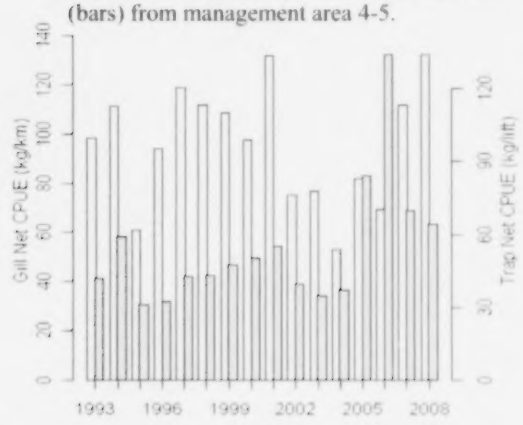

Figure 44. Walleye gill net CPUE (kg/km) and trap net CPUE (kg/lift) for management area 4-5.

Harvest of walleye from gill nets was up substantially in 2008; it was the highest gill net harvest reported since 1996 (Fig. 42). Almost half of the harvest in 2008 was reported in September. Typically, walleye harvest in this QMA occurs in the second half of the year, with most of the harvest occurring between August and October. The harvest of walleye in this QMA shows a distinct north-south gradient, with most of the harvest coming from the southern half of the zone. Over the past three years, close to half of the walleye harvested in gill nets from this zone have been in from lake whitefish-targeted efforts.

Total gill net effort targeting walleye was up substantially in 2008 from the previous three years, although the amount of targeted gill net effort was comparable to that reported between 2002 and 2004 (Fig. 43).

Walleye-targeted trap netting effort was limited to grids in the southern tip of this QMA in 2008, although a small number of walleye were caught in trap nets targeting whitefish further north.

The CPUE of walleye in non-targeted efforts has generally been increasing over the past decade, and although it peaked in 2005, non-targeted CPUE continues to be high. CPUE in targeted nets has also risen in recent years and is now higher than any point in the last ten years (Fig. 44).

Biological attributes were collected sampled from 505 fish sampled from the commercial catch. The

sampled gill net catch was made up of 11 age classes ranging from age one to 12 years, with age four and five dominating. The sampled trap net catch was made up of 11 age classes ranging from age one to 11 years, with ages three, four, and five dominating. Other ages were found in low abundance in the trap net catch. The mean age of the gill net catch was 5.63, while the mean age of the trap net catch was 3.86. There have been a similar number of age classes in the catch for the past four years, but older ages continue to be much less common than a decade ago. Based on the proportions of one and two year olds in the catch, the 2007 year class may be relatively strong while the 2006 year class appears to be relatively weak. Catch curve annual mortality estimated from the age composition observed in the trap nets was estimated at 47.0% while it was estimated at 37.0% from the gill nets.

The cohort model suggests that the total annual mortality is relatively low (A = 42.0%). However, the percentage of fish harvested by the commercial fishery is fairly high (29.2%). Additionally, the estimate of exploitable biomass has declined continuously since 2006, although it continues to be consistent with the long-term average for this QMA.

Summary and Recommendation

The CPUE of walleye in gill nets has been increasing since 2006, and in 2008 was the highest value observed in targeted efforts in the past 10 years. However, the CPUE in the trap nets has declined since 2006. The 2003 year class continues to be well represented in both the gill net and trap net harvests. The 2004 year class was also prominent in the trap net catches. However, the strength of this year class is uncertain. The age distribution in both gears is fairly broad as it is composed of 11 age classes. Total annual mortality estimated from catch curves was relatively low. Cohort analysis suggests that biomass in this QMA has been driven by the 2003 year class and has been declining since 2006. The EB:H ratio in 2008 was 29.2% and is expected to increase to 43.2% if harvest remains unchanged in 2009. The contribution to the fishery from subsequent year classes is uncertain.

RECOMMENDATION: No Change

Walleye QMA 5-2

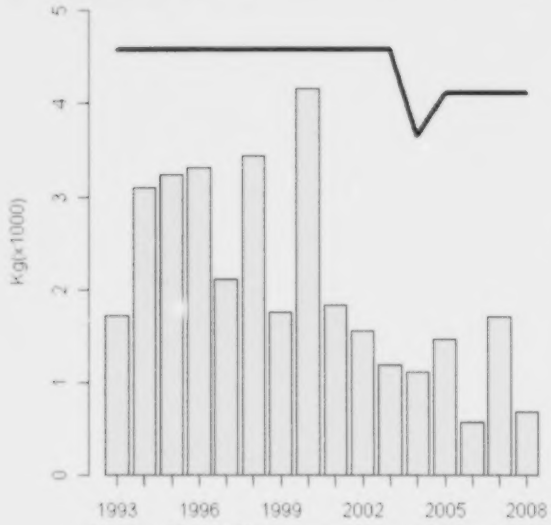

Figure 45. Walleye quota (line) and harvest (bars) from management area 5-2.

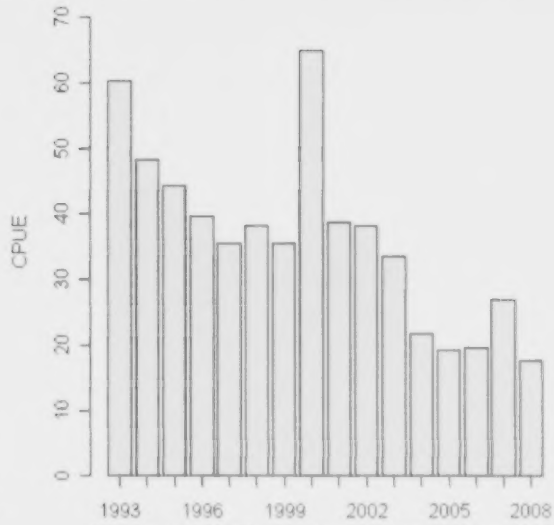

Figure 46. Walleye gill net CPUE (kg/km) for management area 5-2.

Harvest of walleye was down noticeably in 2008 after spiking up in 2007, and it was just slightly above the all-time low reported in 2006 (Fig. 45). There appears to have been a spatial change in the harvest patterns in this QMA. Between 2001 and 2004, harvest tended to be spread out among all of the near-shore grids; however, in 2007, and especially in 2008, the harvest has been limited to a relatively small number of grids in the centre of the QMA. This pattern exists for both targeted and incidental harvests.

Most of the walleye caught in this zone are caught in walleye-targeted efforts, although some are reported from whitefish-targeted efforts as well. Total walleye-targeted effort was down in 2008, close to the 10 year average. CPUE of walleye in all efforts has declined since 2002 (Fig. 46). In targeted nets, the decline is evident from 2000. Although the trend bottomed out in 2005, it has only recovered slightly in 2007 and 2008.

There was no catch sampling in 2008.

An OCFA-MNR Partnership project conducted in the spring of 2008 did sample some walleye from this zone. However, it is difficult to interpret this information in isolation and it was not considered further in the 2008 Status of Stocks process.

Summary and Recommendation

Commercial harvest was down from 2007 and is among the lowest values reported in the past 15 years. The CPUE is also down from 2007 and is the lowest value in the past 15 years. No biological samples have been available from the harvest from this QMA since 2004. Recruitment is highly uncertain and current quota levels continue to be well above realized harvest levels.

RECOMMENDATION: No change

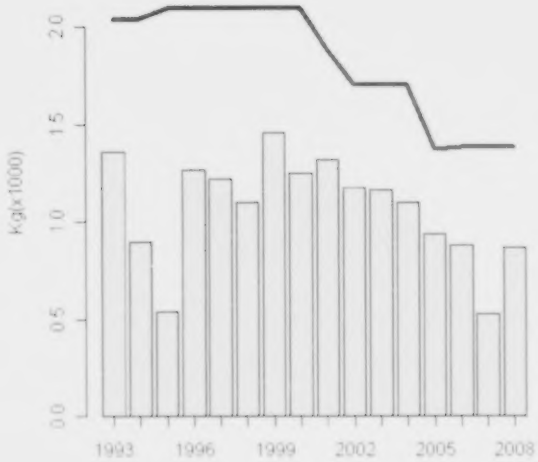

Figure 47. Walleye quota (line) and harvest (bars) from management area 5-7.

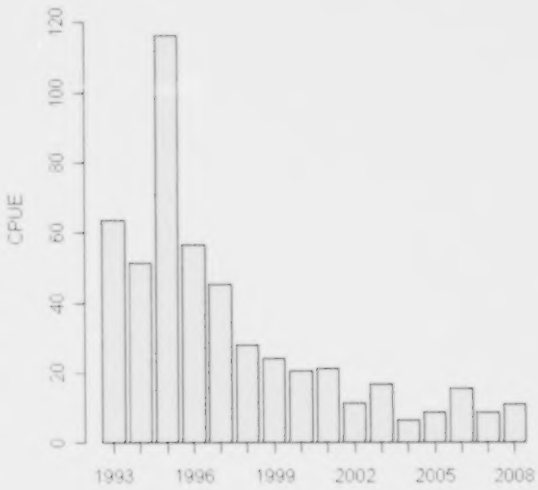

Figure 48. Walleye gill net CPUE (kg/km) for management area 5-7.

Walleye harvest was up in this QMA from 2007 and was similar to harvests reported in 2005 and 2006. However, it continues to be lower than the harvest reported between 1996 and 2004 (Fig. 47). Monthly patterns in harvest indicate that much of the walleye harvest occurs in September or October. Most of the walleye harvest in this zone is from walleye-targeted efforts, although small amounts are often reported from lake whitefish-targeted efforts as well. These incidental catches are typically reported in the last months of the year. Spatially, the harvest of walleye closely matches the reported effort and has traditionally been centred in the Giants Tomb area.

The CPUE of walleye-targeted efforts declined sharply between 1996 and 2004 (Fig. 48). Although there has been a slight recovery in recent years, the mean CPUE of walleye in this QMA continues to be well below the levels reported more than a decade ago.

Biological attributes were collected from 65 fish sampled from the commercial catch in 2008. The sampled catch was made up of eight age classes ranging from age three to ten years, with age three and four dominating. The mean age was 4.42 and is noticeably younger than most years where data is available from this QMA, although sample sizes are extremely limited in many years. In 2008, there were eight year classes observed, within the range typically observed in this QMA. Catch curve annual mortality from gill nets was estimated as 32.1%, although again, this estimate is based on a very small sample size.

Summary and Recommendation

Harvest of walleye in this zone is up from 2007, but is still well below the levels observed before 1999. CPUE is also up from 2007, but continues to be very low relative to recent annual CPUE values. There was some limited catch sampling in 2008; 65 biological samples were collected. The presence of three and four year olds in the catch is promising.

RECOMMENDATION: No change

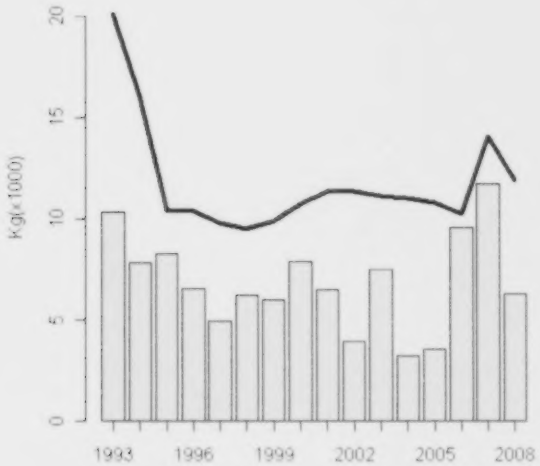

Figure 49. Walleye quota (line) and harvest (bars) from management area 6-1.

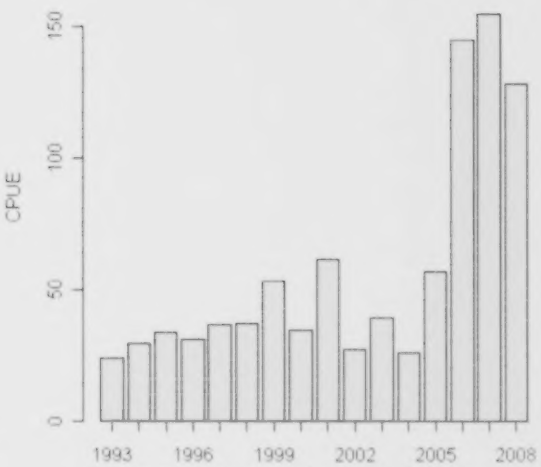

Figure 50. Walleye gill net CPUE (kg/km) for management area 6-1.

Harvest was down noticeably in 2008 from the much higher levels reported in 2006 and 2007. Harvest levels reported in 2008 were close to the 10-year average from this QMA (Fig. 49). In previous years, most of the harvest has come from walleye-targeted nets. In 2008, less than half of the walleye harvest was from walleye-targeted efforts. In fact, much of the walleye harvest was actually reported from yellow perch-targeted efforts.

Relatively little effort is actually targeted at walleye. The total lake whitefish targeted effort that reported at least some walleye was up substantially in 2008, more than double the average for the previous four years. Total effort actually targeting walleye was down in 2008 to less than 20 km, the lowest value reported in this zone over the past 20 years and less than half of the mean value reported over the past decade.

The reported CPUE for walleye targeted efforts for 2008 dropped noticeably from the previous two years, but continues to be well above the values reported over the past 15 years (Fig. 50).

Biological attributes were collected from 186 fish sampled from the catch in 2008. The sampled catch was made up of eight age classes ranging from age two to ten years, with age three and five dominating. The mean age was 4.19. There has been a similar number of age classes making up the catch since about 2000, although a broader range of ages were typically present in the catch during the 1990s. In 2008, the 2005 year class was the most abundant in the catch, followed by the 2003 year class. Based on the proportions of one and two year olds in the catch, the 2006 and 2007 year classes appear to be relatively weak. Catch curve annual mortality estimated from the age composition of the catch was estimated at A = 51.6%.

The cohort model suggests that the total annual mortality is moderate for an exploited population (A = 41.8%) and that the percentage of fish harvested by the commercial fishery is currently low (8.6%).

Summary and Recommendation

Targeted CPUE continues to be extremely high in this QMA and the estimated biomass increased in 2008. Total biomass is expected to stay high in 2009 as recent strong year classes contribute to grow and recruit into the fishery. However, the age composition of the catch in this QMA continues to be truncated with relatively few older individuals and is noticeably different from the age composition observed a decade ago. Prior to 2000, there were typically more than 12 age classes in the catch from this QMA and as a result, the status of the adult spawning stock continues to be uncertain.

RECOMMENDATION: **No Change**

Yellow Perch - Overall

Harvest from the main basin continues to dominate the yellow perch harvest in Lake Huron. Although both gill net and trap net harvest in QMA 4-5 declined slightly in 2008, the gill net harvest remained very close to the peak harvest levels reported over the past 15 years. Harvests of yellow perch are generally low in other parts of the lake. There was a small amount of yellow perch harvested from Georgian Bay (QMAs 5-7 and 5-8) and the harvest of yellow perch from the North Channel continue to be well below the available quota. Overall, targeted effort declined in both the main basin and in the North Channel.

The Offshore Index indicates that the yellow perch population in the main basin has remained stable over the past several years and there is evidence of several strong year classes in that part of the lake. In the North Channel, the Offshore Index suggests that abundance of yellow perch has increased in recent years, but CPUE is still lower than the 1999 to 2001 period. Like the southern main basin, there appears to be several strong year classes present in the population.

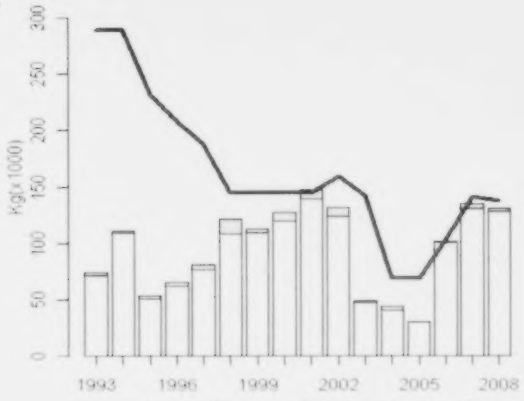

Figure 51. Yellow perch quota (line) and harvest (bars) from management area 4-5.

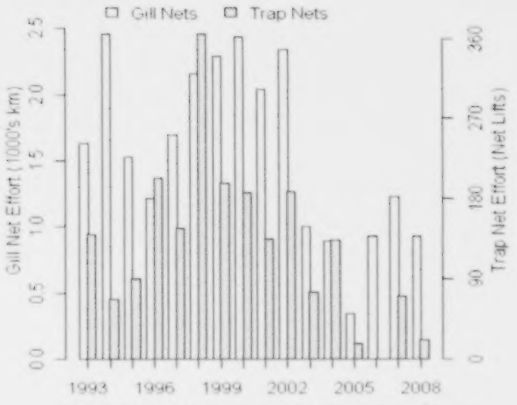

Figure 52. Yellow perch effort for gill nets and trap nets for management area 4-5.

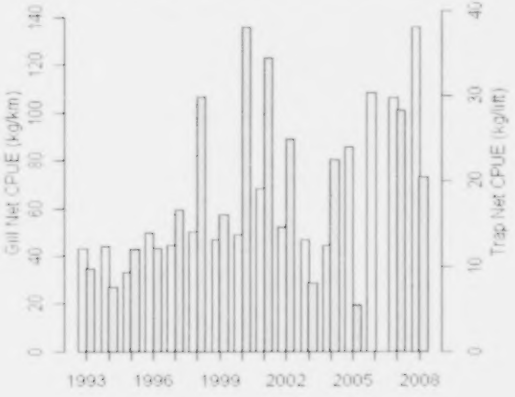

Figure 53. Yellow perch gill net CPUE (kg/km) and trap net CPUE (kg/lift) for management area 4-5.

Despite the reduced effort, the harvests from this zone in 2008 were comparable to the highest harvests reported over the past 15 years (Fig. 51). For the last three years, close to 95% of the quota has been harvested in this QMA.

Total effort targeting yellow perch is slightly lower than 2007, but very similar to the levels reported over the last five years (Fig. 52). The total effort continues to be noticeably lower than that reported prior to 2003 however.

Reported CPUE for targeted yellow perch efforts continues to be higher than at any time over the past two decades. Trap net CPUE has been highly variable but is currently close to the ten-year mean for this QMA (Fig. 53).

Biological attributes were collected from 1,120 yellow perch sampled from the commercial catch. The sampled gill net catch was made up of six age classes ranging from age two to seven years, with ages three, four, and five dominating. The sampled trap net catch was made up of six age classes ranging from age one to seven years, with age four and five dominating. Age three and six made up about equal proportions of almost all of the remaining catch. There have been a similar number of age classes making up the catch since about 2002, although the number of age classes continues to be much lower than during the 1990s when nine or ten year classes were regularly observed in the catch. Additionally, in 2008, the 2003, 2004, and 2005 year class were all well represented in the catch. This is noticeably different from recent years

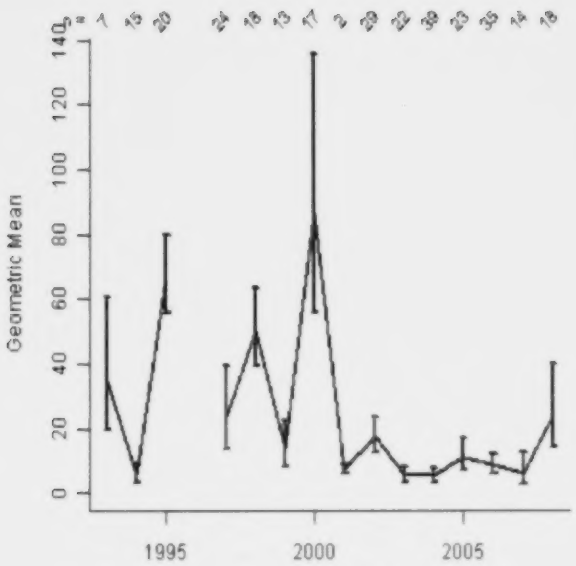

Figure 54. Line graph showing the trend through time of the catch of yellow perch in the OMNR's southern Lake Huron Offshore Index program 1993-2008. The solid line indicates the mean catch (fish/index net).

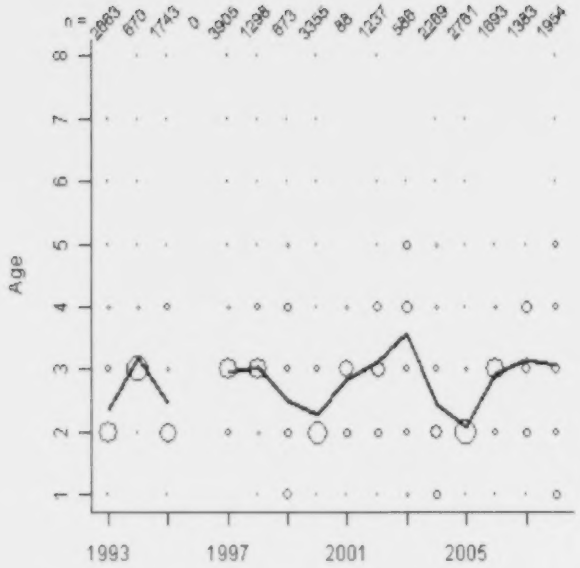

Figure 55. Bubble plot of the age distribution of yellow perch caught in the OMNR's southern Lake Huron Offshore Index program 1993-2008. The size of each bubble is proportional to the contribution of that age to the catch in that year. The solid line indicates the mean age of the catch.

when a single year class has tended to dominate the age composition. Catch curve annual mortality estimated from the age composition observed from gill nets was estimated at 63.0% (A).

The cohort analysis estimated that total annual mortality is relatively low (3-year average 49.6%). However, the percentage of available biomass harvested by the commercial fishery is very high (57.4% in 2008) and the estimate of exploitable biomass has declined since 2006. The estimate of exploitable biomass in 2008 is 54% of what it was in 2006.

The Offshore Index indicates that the relative abundance of yellow perch continues to increase, at least compared to the past eight years (Fig. 54). While the age composition of the Offshore Index is usually dominated by strong year classes when they are present, the catch in 2008 was made up of several strong year classes, including fish as old as eight (Fig. 55). Additionally, the Offshore Index suggests that the 2007 year class may be relatively strong, although it has only been observed once as one year olds. There is still considerable uncertainty with respect to the strength of this year class.

Furthermore, the 2007 year class is unlikely to contribute substantially to the commercial fishery until 2010.

Summary and Recommendation

The CPUE in commercial gill nets has risen steadily over the past five years and is currently at an all time high. The age composition of the catch in this QMA is fairly broad, although fish older than seven continue to be rare. The harvest of yellow perch in this zone continues to be supported by the 2003 year class, although the 2004 and 2005 year classes are also contributing substantially to the catch. Estimated biomass has been declining steadily in this QMA since 2006, although the Offshore Index suggests that the 2007 year class may be relatively strong.

RECOMMENDATION: No Change

Yellow Perch QMA 6-1

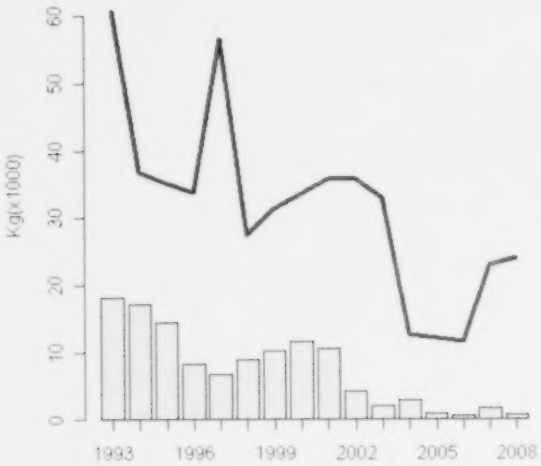

Figure 56. Yellow perch quota (line) and harvest (bars) from management area 6-1.

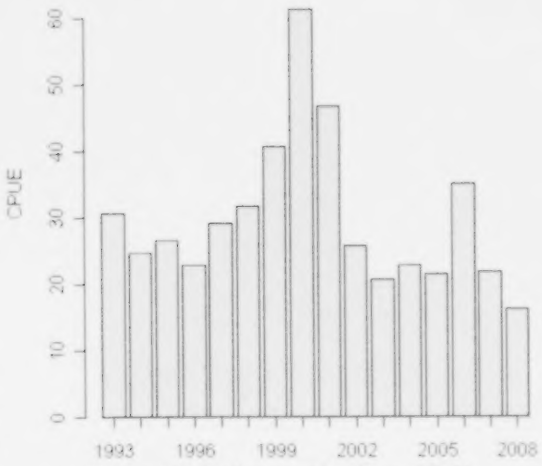

Figure 57. Yellow perch gill net CPUE (kg/km for management area 6-1.

Harvest of yellow perch continues to be extremely low in this QMA. Harvest in 2008 was the lowest reported in more that 20 years (Fig. 56). Less than 2.2% of the available quota was harvested.

Effort reported in 2008 was approximately half of the value reported in 2007 and was among the lowest values reported over the past two decades.

CPUE for targeted yellow perch efforts continue to decline in this QMA. In fact, the CPUE reported in 2008 was the lowest reported over the last 15 years (Fig. 57).

There were 52 commercial gill net efforts reported in 2008, however no yellow perch were sampled.

The UGLMU's Offshore Index in this QMA suggests that the relative abundance of yellow perch is increasing in the eastern part of this QMA and the mean CPUE has been steadily increasing since 2004 (Fig. 58). The age composition from the index program suggests that this increase in abundance has largely been driven by the 2002, and more recently, the 2005 year classes (Fig. 59).

The biomass estimated using cohort analysis agrees well with the index data and indicates that biomass has been increasing since 2004. At current exploitation rates, less than 5% of the available biomass is being harvested. However, the current quota is 148% of the projected available biomass in 2009.

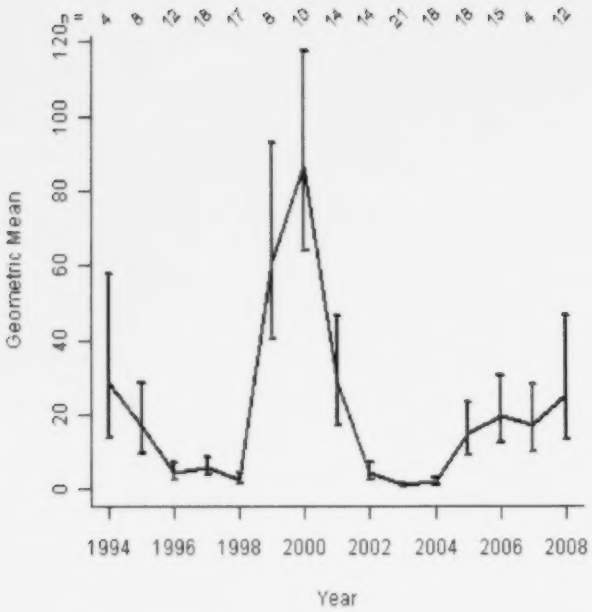

Figure 58. Line graph showing trend through time of the catch of yellow perch in the UGLMU's North Channel Offshore Index 1993 to 2008. The solid line indicates the mean catch (fish/index net).

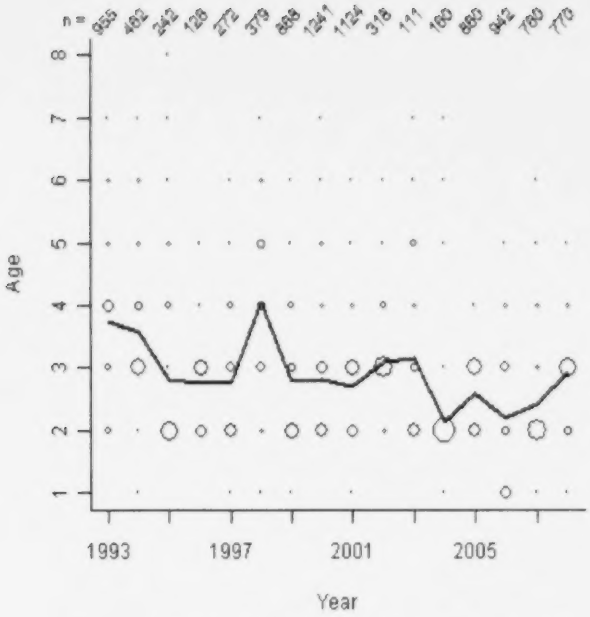

Figure 59. Bubble plot of the age distribution of yellow perch caught in the UGLMU's North Channel Offshore Index 1993 to 2008. The size of each bubble is proportional to the contribution of that age to the catch in that year. The solid line indicates the mean age of the catch.

Summary and Recommendation

Harvest of yellow perch in this zone is extremely low and the targeted CPUE for 2008 was the lowest reported in the past 15 years (Fig. 56). Both the cohort analysis and the Offshore Index program suggest that the relative abundance of yellow perch in this QMA is actually increasing. Yellow perch stocks in the QMA appear to be under exploited, but current stocks are unlikely to be capable of supporting current quota levels.

RECOMMENDATION: -10%

Lake Trout - Overall

Harvest of lake trout was similar to that reported in 2007. The majority of the harvest continues to come from the main basin (72%) even though stocking is almost equal in the main basin and Georgian Bay. Overall, fishing effort has been much lower in Georgian Bay accounting for the lower harvests. Harvest in the main basin peaked in 2004 and has declined slightly since. Peaks in harvest are highly variable in the rest of the lake.

The age distribution of lake trout in the commercial catch was dominated by five to seven year old fish. Each year there appear to be older fish in the catch suggesting increasing survival of larger, older fish. This is particularly true in the main basin. Conversely, the mean age of lake trout in the North Channel catch continues to be at least a year younger than the rest of the lake. Age four and five fish dominate the catch in that area.

Independent index netting throughout the lake suggest that older lake trout are common in locations where large mesh gill net fishing has not been practiced or effort has been low.

Overall, abundance of lake trout continues to increase in Lake Huron. Young fish are less abundant but there are more indications of natural reproduction than ever before, especially in the main basin. In 2008, 20-30% of the sampled catch was unclipped and presumed wild.

Lake Trout are currently being rehabilitated on Lake Huron. Rehabilitation efforts have focused on 16 lake trout rehabilitation zones (LTRZs) located throughout Lake Huron. Rehabilitative stocking of lake trout near active LTRZs is likely to have direct ramifications on the commercial fisheries in those QMAs that contain a LTRZ as stocked lake trout recruit to commercial fishing gear. The new lake trout quotas implemented in Lake Huron were intended to balance the objectives of lake trout rehabilitation and the incidental catch of lake trout in lake whitefish targeted gill net efforts. These quotas appear to be limiting lake trout harvest in only a few areas and some changes may be necessary. QMA's 4-4 and 4-7, still do not have production lake trout quotas in place. Work is continuing in an effort to develop appropriate production quota for these two QMAs.

Lake Trout QMA 4-1

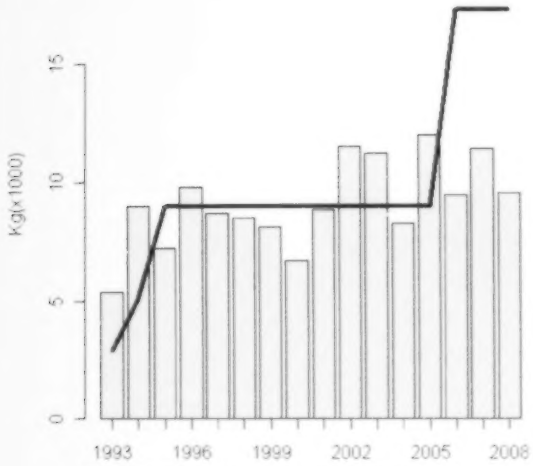

Figure 60. Lake trout quota (line) and harvest (bars) from management area 4-1.

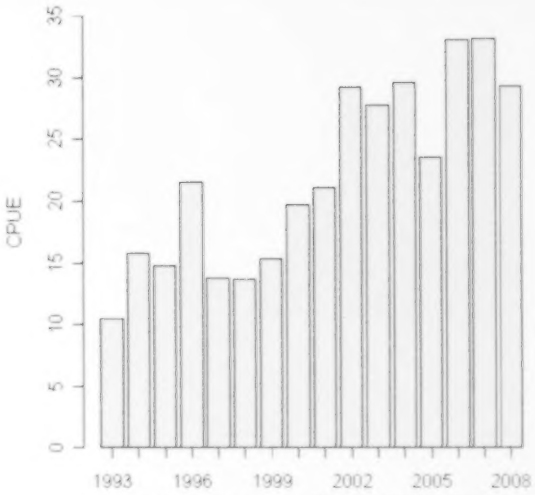

Figure 61. Lake trout gill net CPUE (kg/km for management area 4-1.

Harvest of lake trout decreased in this QMA in 2008 (Fig. 60). Similarly, CPUE of lake trout in lake whitefish targeted gill nets was down in 2008 from 2006-2007, but was still noticeably higher than the period prior to 2002 (Fig. 61). Over the past two decades, CPUE for lake trout has been trending upwards in this QMA.

Biological attributes were collected from 87 lake trout sampled from the commercial catch in this QMA. The sampled catch was made up of nine age classes ranging from age five to 13 years, with age five and six dominating. The mean age of 7.07 was consistent with a long-term increasing trend. Additionally, the number of age classes observed in the catch was broader than has been observed in previous years in this QMA and is consistent with a maturing population. Unclipped fish made up 26% of the lake trout sampled. Catch curve mortality based on the observed age composition of the catch was estimated at 22.4% (A). Size at age does not appear to be changing and the ICR decreased slightly from 2007, but was still one of the highest QMAs on the lake (ICR in 2008 = 31.8%).

No lake trout have been stocked by OMNR in this QMA or the western end of the North Channel. Most of the lake trout harvested in this QMA come from the United States Fish and Wildlife Service (USFWS) stocking in the Northern Refuge, located to the south of Drummond Island. It is expected that the continued stocking in the Northern Refuge will result in relatively high incidental catch of lake trout in this QMA into the foreseeable future.

Summary and Recommendation

Harvest of lake trout was down in this QMA from 2007 but within the range observed over the past six or seven years. The CPUE was also down from 2007, but still higher than the period prior to 2002. The age distribution in 2008 was fairly broad with nine different age classes and the total annual mortality was below the upper threshold used by UGMLU for managing lake trout stocks. Unclipped fish made up 26% of the lake trout sampled.

RECOMMENDATION: No Change

Lake Trout QMA 4-2

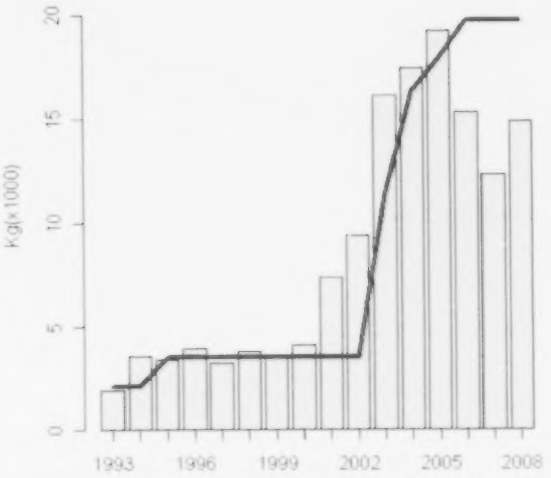

Figure 62. Lake trout quota (line) and harvest (bars) from management area 4-2.

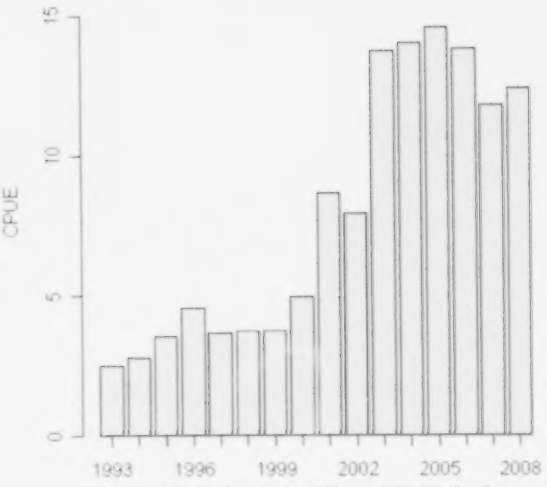

Figure 63. Lake trout gill net CPUE (kg/km for management area 4-2.

Harvest increased in 2008 but was still lower than the peak seen between 2003 and 2005 (Fig. 62). Virtually all of the commercial effort that reported lake trout in this zone was targeting lake whitefish. The highest effort and harvest have consistently been reported in grids immediately to the north west of the Duck Islands although the highest CPUE has been reported from the grids southeast of the islands. CPUE is down slightly from its peak in 2005, but continues to be noticeably higher than anytime prior to 2003 (Fig.63).

Biological attributes were collected from 86 lake trout sampled from the commercial catch, most of which were from gill net efforts (n=78). No CWTs were recovered from this zone in 2008. The sampled gill net catch was made up of ten age classes ranging from age three to 13 years, with age five, seven, and eight dominating. The mean age was 7.27 and has generally been increasing over the past decade. Additionally, there were more age classes observed in 2008 than has been observed in previous years in this QMA. Annual mortality estimated using catch curve analysis was estimated at 33.4% (A). Unclipped fish made up 23% of the lake trout sampled from the commercial catch

Size-at-age has been variable in recent years but does not appear to be trending in either direction. The ICR increased slightly from 2007 to 13.3%, but is still lower than the period between 2003 and 2006.

No lake trout have been stocked by OMNR in this QMA, however an average of 236,000 yearling lake trout have been stocked annually in neighbouring QMA 4-3 since 2001. These lake trout, along with lake trout stocked by the USFWS in the Northern Refuge and offshore reefs, make up a significant portion of the fish harvested in this QMA.

Summary and Recommendation

Both harvest and CPUE of lake trout were up in this QMA in 2007 but were lower than the 2003 to 2005 period. Despite the relatively small sample size, the age distribution in 2008 was fairly broad with ten different age classes and total mortality does not appear to be excessive. The proportion of unclipped fish in the commercial fishery was 23% (20 of 86) and has been increasing in recent years.

RECOMMENDATION: No Change

Lake Trout QMA 4-3

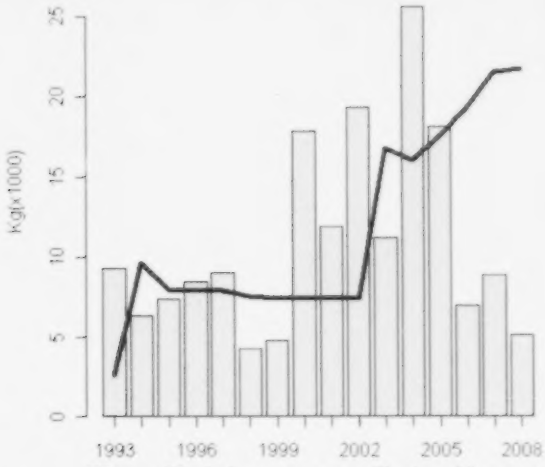

Figure 64. Lake trout quota (line) and harvest (bars) from management area 4-3.

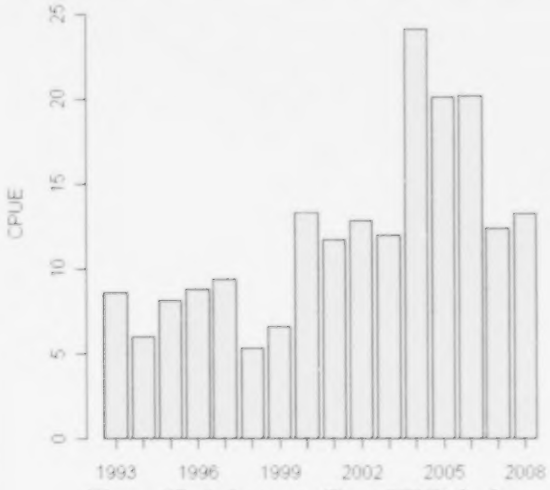

Figure 65. Lake trout gill net CPUE (kg/km for management area 4-3.

Total harvest of lake trout was down in 2008 relative to 2007 and is noticeably lower than most years over the past decade (Fig. 64). Less than a quarter of the available quota was harvested in 2008. Virtually all of the lake trout harvested in this QMA are from lake whitefish targeted efforts. The mean CPUE for lake trout caught in lake whitefish targeted gill nets was up slightly from 2007, and is close to the ten year average, but well below the peak values reported between 2004-2006 (Fig. 65). The mean CPUE for lake trout has been variable, but generally increasing over the past 20 years.

Biological attributes were collected from only 13 lake trout sampled from the commercial catch. One CWT was recovered in this QMA in 2008. The sampled gill net catch was made up of three age classes ranging from age four to nine years, with age four dominating. The mean age was 5.75. This is fewer age classes than has been observed in most previous years in QMA 4-3; however, this difference should be viewed with caution, as sample size is unusually small. Five of the 13 (38.5%) sampled lake trout were unclipped and presumably wild.

With the exception of 1980, some part of this QMA has been stocked annually with pure strain lake trout since 1977. Between 2001 and 2008, an average of 236,000 lake trout has been stocked annually in this QMA. Most of this stocking is associated with the Bruce Archipelago LTRZ.

Additional stocking activity in the Northern Refuge and on Six Fathom Bank by the United States Fish and Wildlife Service are also likely to influence catches in this QMA. Continued stocking will result in relatively high incidental catch of lake trout in this QMA into the foreseeable future.

Summary and Recommendation

Harvest of lake trout was down in this QMA and continues to be much lower than the period between 2000 and 2005. While CPUE was up slightly from 2007, it continues to be noticeably lower than the 2004 to 2006 period. There is very little biological data from this QMA, but it appears as though the proportion of unclipped fish in the commercial harvest is increasing.

RECOMMENDATION: No Change

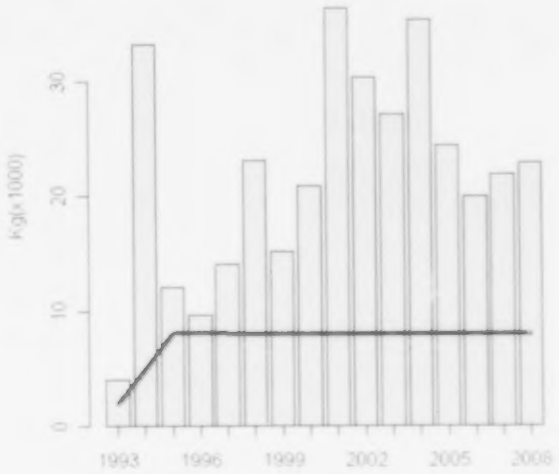

Figure 66. Lake trout quota (line) and harvest (bars) from management area 4-4.

The harvest of lake trout in QMA 4-4 was up again in 2008 but was still substantially lower than the peaks that occurred in 2001 and 2004 (Fig. 66). The incidental catch of lake trout in lake whitefish targeted effort is slowly increasing in this QMA, but continues to be lower than many other parts of the lake.

Unfortunately, no age structures were available from the lake trout harvest in this QMA, precluding discussion of the age distribution of the catch or the calculation of catch curve mortality estimates in recent years.

The UGLMU's Offshore Index data indicates that the abundance of lake trout has generally been increasing over the last ten to 12 years, at least in the vicinity of Southampton. A noticeable drop in mean CPUE was observed in 2008, but relative abundance is still higher than most years prior to 2004 (Fig. 67). The increasing abundance (i.e. mean CPUE in standardized index gear) is a combination of the persistence of older fish in the catch and the continued recruitment of unclipped, and presumed wild fish, to the population (Fig. 68). The proportion of unclipped, wild lake trout observed in the catch of the Offshore Index in this QMA appears to have stabilized at close to 25%. In 2008, 26.7% of all lake trout captured at this site (20 of 75) were unclipped and were presumed to be wild.

Lake trout have been stocked in the southern half of this QMA in association with the Point Clark Lake Trout Rehabilitation Zone (LTRZ 11) as well as in the Bruce Archipelago (OMNR) and several offshore reefs (US agencies) frequently appear in the catch in this QMA. Between 2001 and 2007, an average of 224,000 yearling lake trout was stocked annually in this QMA.

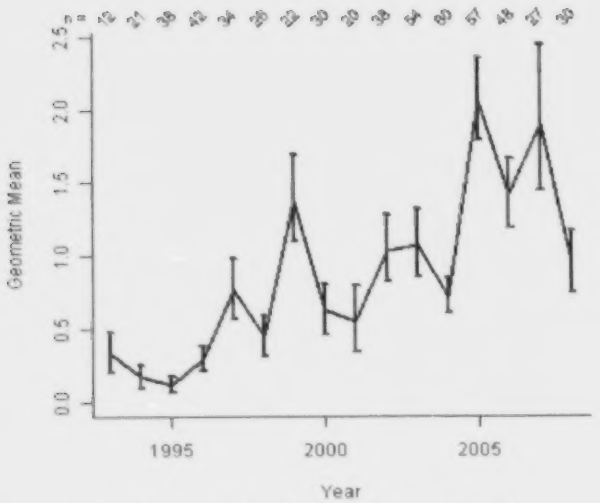

Figure 67. Line graph showing trend through time of the catch of lake trout in the UGLMU's central Lake Huron Offshore Index 1993 to 2008. The solid line indicates the mean catch (fish/index net).

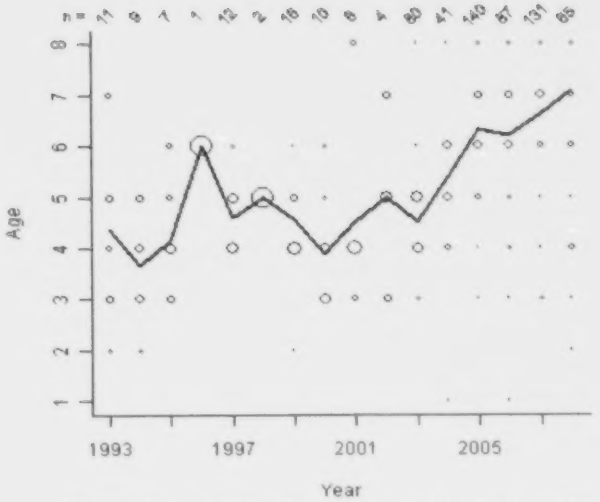

Figure 68. Bubble plot of the age distribution of lake trout caught in the UGLMU's central Lake Huron Offshore Index 1993 to 2008. The size of each bubble is proportional to the contribution of that age to the catch in that year. The solid line indicates the mean age of the catch.

Summary and Recommendation

Production quotas have yet to be implemented in this QMA, but it is clear that the current level of harvest in this QMA is higher than desired. This is especially true in light of the number of unclipped fish being observed in recent years. If lake trout harvest increases in this QMA, rehabilitation efforts are likely to be impeded.

RECOMMENDATION: **No Change**

Lake Trout QMA 4-5

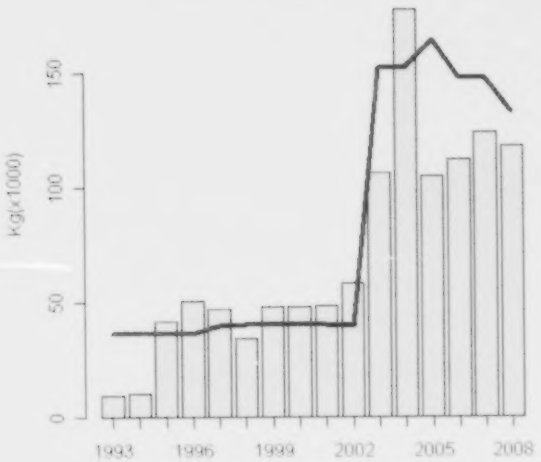

Figure 69. Lake trout quota (line) and harvest (bars) from management area 4-5.

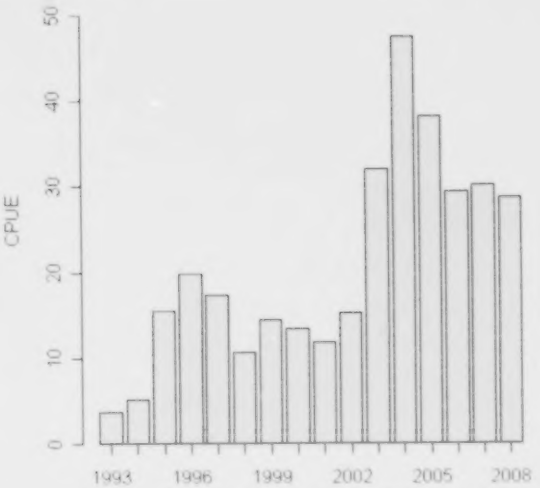

Figure 70. Lake trout gill net CPUE (kg/km for management area 4-5.

Total harvest of lake trout was down slightly from 2007, but continues to be much higher than any time prior to 2003 (Fig. 69). Spatially, the harvest of lake trout has been spread across this zone, and largely reflects where the lake whitefish targeted gill netting has occurred. Virtually all (>98%) of the lake trout harvested in this zone are caught in lake whitefish targeted efforts, although small amounts of lake trout are also reported in efforts targeting lake trout, walleye and yellow perch. The mean CPUE for lake trout in this zone has increased over the past 20 years (Fig. 70), with noticeable spikes in 1996 and again in 2004. Since 2004, CPUE has declined, but continues to be higher than any time prior 2003.

Biological attributes were collected from 75 lake trout sampled from the commercial gill net catch and 25 sampled from the trap net catch. Seven CWTs were recovered. The sampled gill net catch was made up of nine age classes ranging from age four to 14 years, with age seven dominating. The mean age was 7.49 and has been increasing over the past decade. The sampled trap net catch was made up of nine age classes ranging from five to 13 with a mean age of 8.60. Unclipped fish made up 15% of the lake trout sampled from the commercial catch in this QMA. Catch curve mortality estimated from the age composition in the gill nets was A = 33.4%.

The lake trout catches in the Offshore Index have dropped considerably since the peak in 2001 (Fig. 71). However, over the past five years, the catches have stabilized. During that period, the age composition of lake trout in the Offshore Index has matured, with older fish consistently appearing in the catch (Fig. 72). Additionally, the number of unclipped, and presumably wild fish observed in the catch has been increasing. In 2008, 25.6% (21 of 82) of the lake trout sampled in the index program were unclipped.

Stocking of lake trout in this QMA is limited to the northern most grids and is associated with the Point Clark LTRZ (LTRZ 11). A large part of the catch also comes from stocking activities on the US side of the boarder. Lake trout stocking at Point Clark has been occurring since 1992 and between 1998 and 2008, an average of 260,000 lake trout have been stocked annually into the waters in and around this LTRZ.

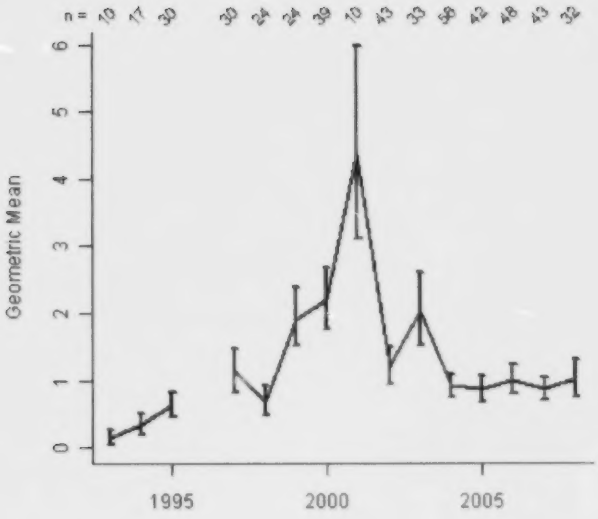

Figure 71. Line graph showing trend through time of the catch of lake trout in the UGLMU's southern Lake Huron Offshore Index 1993 to 2008. The solid line indicates the mean catch (fish/index net).

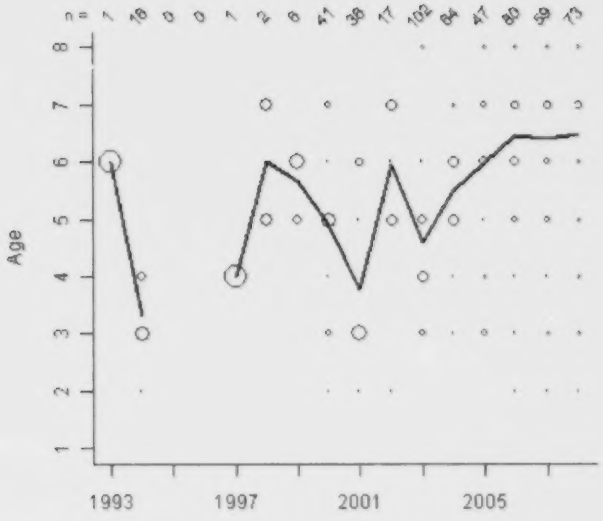

Figure 72. Bubble plot of the age distribution of lake trout caught in the UGLMU's southern Lake Huron Offshore Index 1993 to 2008. The size of each bubble is proportional to the contribution of that age to the catch in that year. The solid line indicates the mean age of the catch.

Summary and Recommendation

The abundance of lake trout appears to be declining in this QMA, at least partially due to the combined effects of high harvest and poor survival of recently stocked fish. The age composition in both the commercial catch and the Offshore Index continues to mature with older age classes. Additionally, the presence of unclipped fish suggests that at least some natural reproduction is occurring in southern Lake Huron.

RECOMMENDATION: **No change**

Lake Trout QMA 4-7

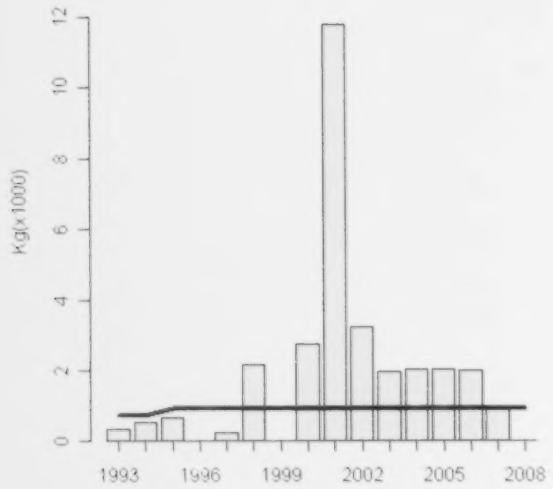

Figure 73. Lake trout quota (line) and harvest (bars) from management area 4-7.

There was no lake trout harvest reported from this QMA in 2008.

RECOMMENDATION: **No Change**

Lake Trout QMA 5-1

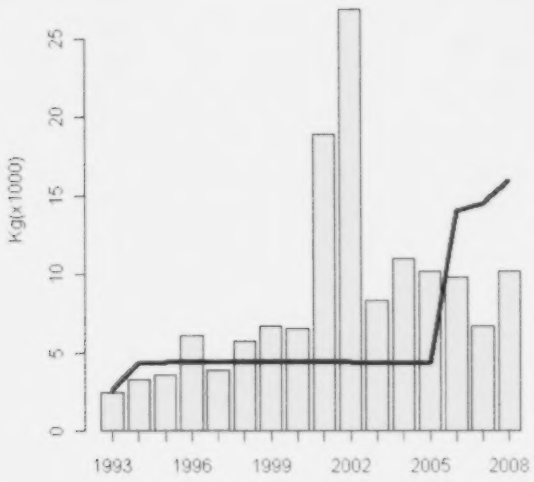

Figure 74. Lake trout quota (line) and harvest (bars) from management area 5-1.

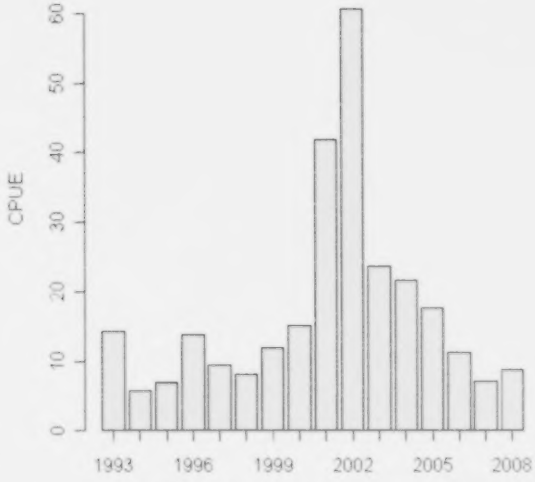

Figure 75. Lake trout gill net CPUE (kg/km for management area 5-1.

Harvest of lake trout was up in this QMA from 2007 but within the range observed over the past five years (Fig. 74). CPUE was up slightly from 2007, but still noticeably lower than the period between 2001 and 2005 (Fig. 75).

Biological attributes were collected from 19 lake trout sampled from the commercial catch. No CWTs were recovered from this QMA in 2008. The sampled catch was made up of five age classes ranging from age three to ten years, with age four dominating. The mean age was 5.63, which was essentially unchanged for the previous seven years. Unclipped fish made up 26% of the lake trout sampled.

The ICR increased in 2008 to 15.1%, but was still well below the 2001-2005 period when it was close to 20%.

Stocking of lake trout in this QMA has been sporadic over the past decade. Most of the stocking in this QMA has been in association with lake trout rehabilitation zones on Grand Bank (LTRZ 4; to the south) and in Fraser Bay (LTRZ 3; to the west). Movement of these fish into QMA 5-1 appears to be widespread. No lake trout have been stocked directly into the waters of this QMA since 2001.

Summary and Recommendation

Both harvest and CPUE were up from 2007, but continue to be noticeably lower than the peak values reported between 2001 and 2003. The age composition appears to be stable and the proportion of unclipped fish is increasing.

RECOMMENDATION: No Change

Lake Trout QMA 5-2

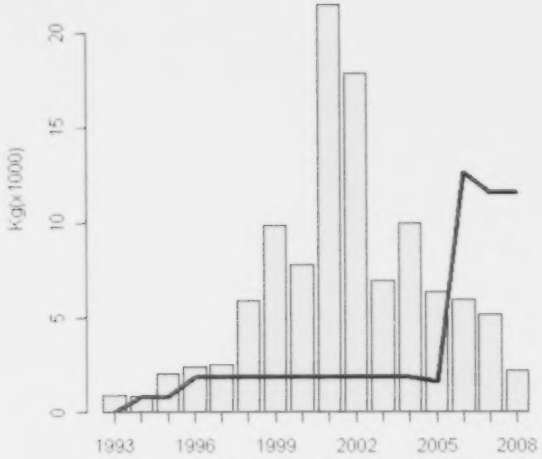

Figure 76. Lake trout quota (line) and harvest (bars) from management area 5-2.

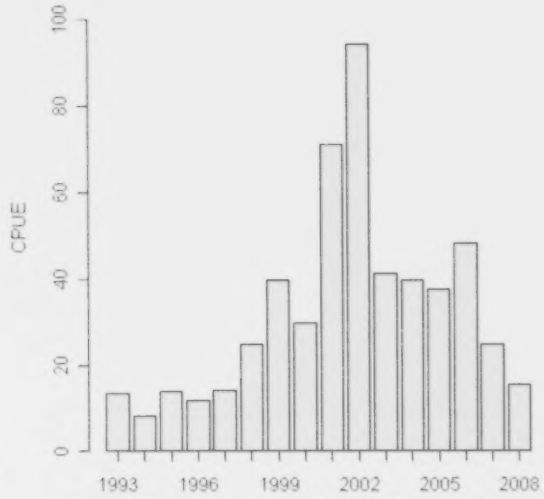

Figure 77. Lake trout gill net CPUE (kg/km for management area 5-2.

Both harvest and CPUE of lake trout were down in 2008 from 2007 and were the lowest values reported in this QMA over the past decade (Figs. 76 and 77).

No biological samples have been collected from this zone in recent years.

The ICR decreased noticeably in 2008, and was lower than any time since 1997. The ICR in 2008 was 10.2%

There is no active lake trout rehabilitation zone in this QMA and there is currently no lake trout stocking in or near this QMA.

Summary and Recommendation

Harvest, relative abundance, and incidental catch of lake trout in QMA 5-2 continue to decline in this QMA and current quota levels are well above realized harvest levels.

RECOMMENDATION: -10%

Lake Trout QMA 5-3

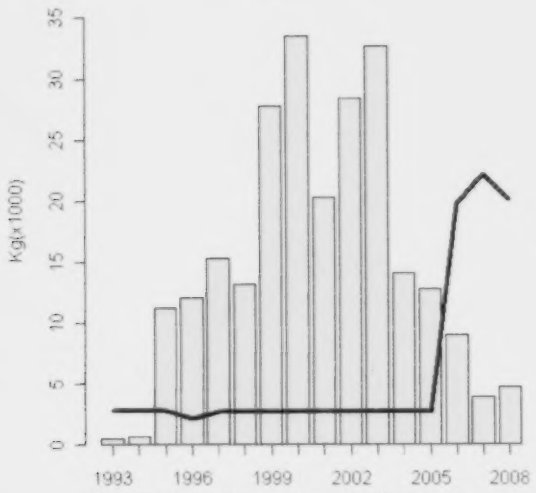

Figure 78. Lake trout quota (line) and harvest (bars) from management area 5-3.

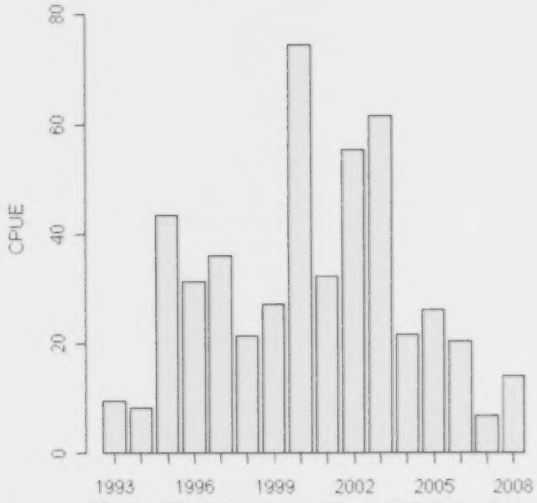

Figure 79. Lake trout gill net CPUE (kg/km for management area 5-3.

Both harvest and CPUE of lake trout were up slightly in 2008 from 2007, but were among the lowest values reported in this QMA over the past decade (Figs. 78 and 79).

Biological attributes were collected from 30 lake trout sampled from the commercial catch. No CWTs were recovered. Most of the fish sampled were four, five or six years of age. Unclipped fish made up 10% of the lake trout sampled.

The ICR increased in 2008 to 16.8%, but continues to be much lower than the period between 1995 and 2004 when the ICR was in excess of 30%. It appears that the stocks in this zone are substantially lower than even a few years ago.

Unfortunately, no catch samples were collected in 2008, precluding an examination of the age structure, estimation of total mortality through catch curve analysis, or assessment of natural reproduction.

QMA 5-3 contains two lake trout rehabilitation zones, Grand Bank (LTRZ 4) and the Bruce Archipelago (LTRZ 13) that are stocked annually. Stocking of lake trout in this QMA between 1997 and 2007 averaged just fewer than 700,000 lake trout yearlings per year.

Summary and Recommendation

Harvest and CPUE are up from 2007, but still low relative to the previous 10 years. Abundance appears to be down and current quotas are well in excess of realized harvest rates.

RECOMMENDATION: -10%

Lake Trout QMA 5-6

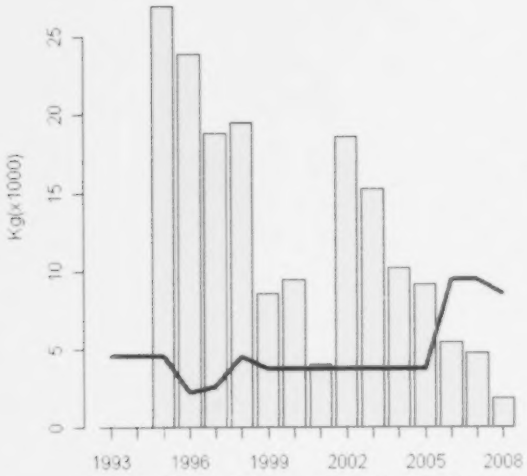

Figure 80. Lake trout quota (line) and harvest (bars) from management area 5-6.

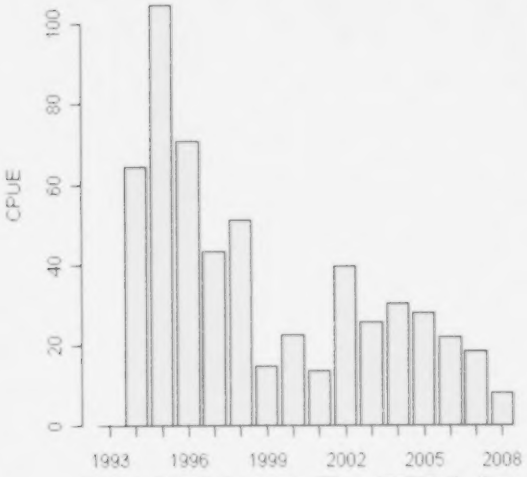

Figure 81. Lake trout gill net CPUE (kg/km for management area 5-6.

Harvest of lake trout in QMA 5-6 was down for the sixth year in a row, and is the second lowest harvest level reported since 1994 (Fig. 80). Less than a quarter of the issued quota was harvested in 2008.

Similarly, the CPUE of lake trout in lake whitefish targeted gill nets continues to decline and was noticeably lower than the peak CPUE values that occurred between 1994 and 1998 (Fig. 81). The incidental catch rate of lake trout in lake whitefish targeted effort decreased to 14.5%, which is substantially lower than recent years.

There has been no stocking of lake trout in this QMA. However, this QMA contains part of LTRZ 10 (southwest Georgian Bay, west of Owen Sound), which is actively stocked. Between 1997 and 2007, an average of 285,500 lake trout were stocked in LTRZ 10, centred around Owen Sound and Colpoys Bay.

Summary and Recommendation

All of the available indicators suggest that the abundance of lake trout has dropped in recent years in QMA 5-6. Harvest, CPUE and ICR all continue to decline. Additionally, the catch of lake trout in the southern Georgian Bay Offshore Index program has declined noticeably in recent years. As such, recruitment to the commercial fishery in Georgian Bay is uncertain. Given the available information, it is unlikely that quota levels will continue to be consistent with lake trout rehabilitation objectives.

RECOMMENDATION: -10%

Lake Trout QMA 5-7

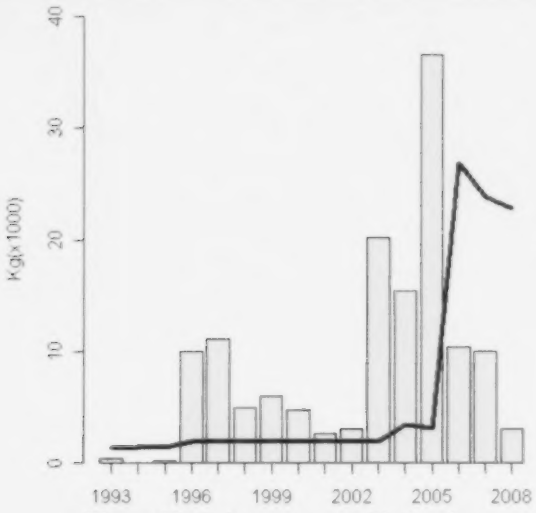

Figure 82. Lake trout quota (line) and harvest (bars) from management area 5-7.

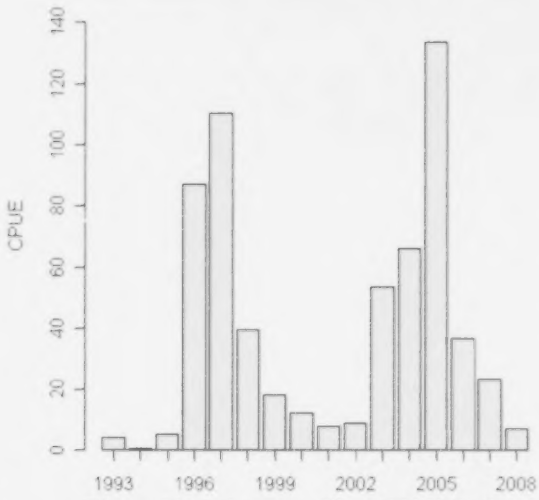

Figure 83. Lake trout gill net CPUE (kg/km for management area 5-7.

Harvest of lake trout in QMA 5-7 declined noticeably from 2007 (Fig. 82). On a zone wide basis, only 13.6% of the issued quota was harvested. A large part of the fishery in this QMA is currently inactive, and as such, a sizable amount of lake trout quota is essentially dormant.

CPUE of lake trout in lake whitefish targeted efforts was down again in 2008, to the lowest it has been over the last decade (Fig. 83). The incidental catch of lake trout in lake whitefish targeted efforts also decreased sharply in 2008 to 12.0%. This is the lowest value reported from the commercial fishery in this QMA since 2002 and less than a quarter of the value reported in 2007. The trends in CPUE, ICR, and to a lesser extent harvest, have been influenced by the pulse stocking that is occurring in the vicinity of the Watcher Islands (LTRZ 8) located in the north central portion of this QMA.

Biological attributes were collected from 39 lake trout sampled from the commercial catch. No CWTs were recovered in this QMA in 2008. The sampled gill net catch was made up of seven age classes ranging from age six to 15 years, with age eight dominating. The mean age was 9.95 and has been increasing since 2002. Recruitment in this zone is uncertain. There is little evidence of the second pulse from the stocking program, although an increasing number of unclipped and presumably wild lake trout were observed in the catch. In 2008, 21% of the sampled lake trout were unclipped.

Stocking in LTRZ 8 follows a cyclical pattern of three years of heavy stocking (approximately 240,000 yearling lake trout per year) followed by a three year stocking hiatus. This results in periods with high incidental catch rates for lake trout when stocked fish are within the size range that is vulnerable to commercial fishing gear, typically between five and seven years of age in this part of G rgian Bay.

mmary and Recommendation

Harvest, CPUE and ICR all dropped noticeably in 2008 suggesting that lake trout abundance in this QMA has declined, although the age distribution of lake trout sampled from the catch continues to mature. The abundance of lake trout in the upcoming years will depend largely on the effectiveness of recent stocking events. Current quota levels are much higher than realized harvest levels.

RECOMMENDATION: -10

Lake Trout QMA 5-8

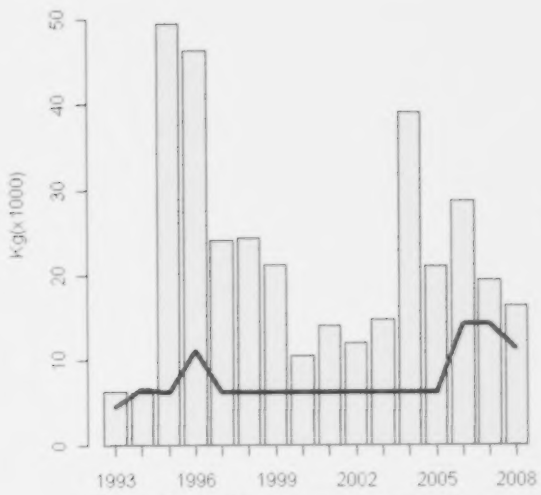

Figure 84. Lake trout quota (line) and harvest (bars) from management area 5-8.

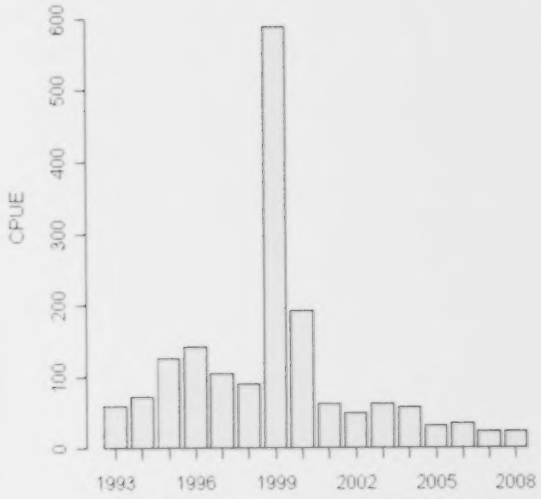

Figure 85. Lake trout gill net CPUE (kg/km for management area 5-8.

Harvest of lake trout was down relative to the past several years and CPUE continued to be very low (Figs. 84 and 85). The ICR dropped in 2008 to 19.3%, and was among the lowest values ever reported for this zone.

Unfortunately, catch-at-age data from the commercial fishery in this zone have not been available for several years, precluding a description of the age structure of the catch, calculation of total annual mortality rates, or assessment of natural reproduction.

The CPUE of lake trout in the UGLMU's Offshore Index in this QMA continues to decline. The mean CPUE in 2008 was approximately one lake trout per net, which was down substantially from the period prior to 2000 (Fig. 86). Although lake trout older than eight years of age continue to be rare in this index program, the mean age of lake trout in the program has been steadily increasing over the past decade in response to a decrease in recruitment due to declining survival of stocked fish (Fig. 87). The proportion of unclipped fish observed in this program increased in 2008. Close to one third (32%) of the lake trout sampled in the Offshore Index were unclipped in 2008 indicating that at some natural reproduction of lake trout is occurring in southern Georgian Bay.

Stocking of lake trout continues in this QMA, associated with LTRZs 9 and 10 (Nottawasaga Bay and western Georgian Bay, respectively). Pure strain lake trout have been stocked in this QMA since 1986. Between 1997 and 2007, an average of 350,000 lake trout was stocked annually in this QMA. Since the 2002 year class, recruitment of these stocked lake trout to assessment gear has been very weak; suggesting that recruitment to the commercial fishery is also likely to decline in the upcoming years (Fig. 86).

Summary and Recommendation

Harvest of lake trout in QMA 5-8 has varied over the past several years but continues to be high relative to the early 1990s. CPUE from both the commercial data and from the independent index data suggest that abundance has been declining for some time and continues to decline, even with continued stocking. Additionally, the chronically truncated age distribution observed in the index program suggests that adult mortality continues to be excessive.

RECOMMENDATION: -10%

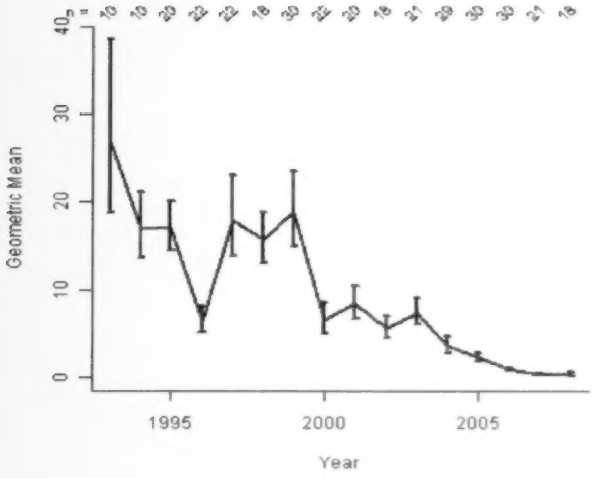

Figure 86. Line graph showing the trend through time of the catch of lake trout in the UGLMU's southern Georgian Bay Offshore Index 1993 to 2008. The solid line indicates the mean catch (fish/index net).

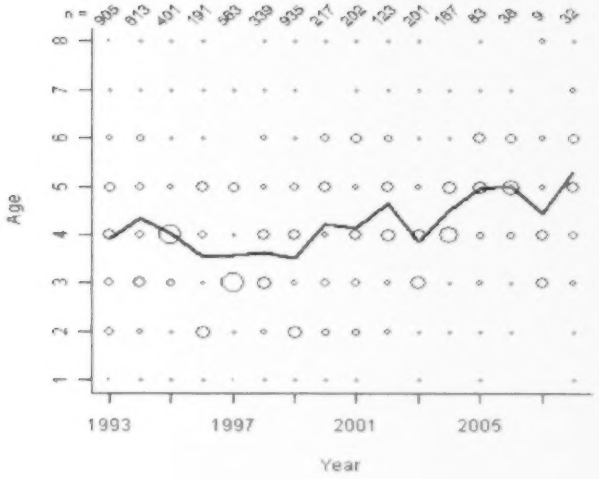

Figure 87. Bubble plot of the age distribution of lake trout caught in the UGLMU's southern Georgian Bay Offshore Index 1993 to 2008. The size of each bubble is proportional to the contribution of that age to the catch in that year. The solid line indicates the mean age of the catch.

Lake Trout QMA 5-9

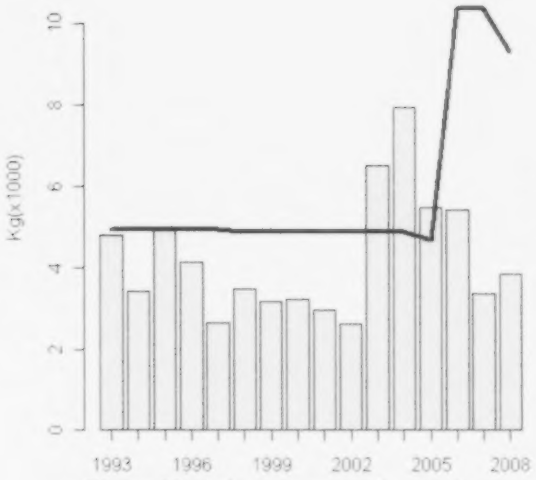

Figure 88. Lake trout quota (line) and harvest (bars) from management area 5-9.

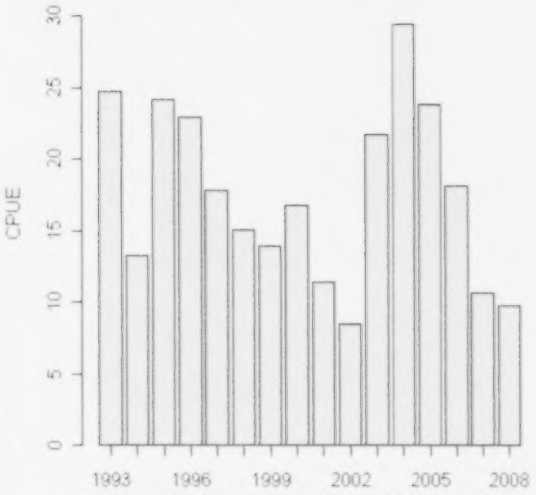

Figure 89. Lake trout gill net CPUE (kg/km for management area 5-9.

Harvest of lake trout was up slightly in 2008, but continued to be noticeably lower than the period between 2003 and 2006 (Fig. 88).

The CPUE of lake trout in lake whitefish targeted effort was down for the fourth year in a row, and was the second lowest value seen in the past 15 years (Fig. 89). The incidental catch of lake trout in lake whitefish targeted effort was quite low in this QMA relative to the rest of the lake (3.3%) and declined again in 2008. Trends in both CPUE and the ICR suggest a decline in lake trout abundance.

Biological attributes were collected from 72 lake trout sampled from the commercial catch. Two CWTs were recovered from this zone in 2008. The sampled catch was made up of eight age classes ranging from age three to 13 years, with age six dominating. The mean age was 5.98 and has remained essentially unchanged since 2006. Lake trout older than ten years of age continued to be rare in this QMA. Catch curve mortality estimates based on the observed age distribution suggest that total mortality of lake trout in this QMA was 25.9%, below the upper threshold used for QMAs that contain one or more LTRZs (40%). Unclipped fish made up 47% of the lake trout sampled from the commercial catch in 2008.

Stocking of lake trout continues in the vicinity of this QMA, associated with LTRZ 9 (Nottawasaga Bay). The first stocking of pure strain lake trout in this LTRZ occurred in 1996. Between 1997 and 2007, an average of almost 95,000 lake trout has been stocked annually in QMA 5-9. There is little evidence of recruitment of year classes after 2002 in this QMA, suggesting that, like other parts of southern Georgian Bay, the strength of subsequent year classes may be low.

Summary and Recommendation

Overall, it appears lake trout abundance in this QMA is down. Declining CPUE and ICR are consistent with a declining lake trout population. Furthermore, fishery independent data from Cape Rich also suggests that there has been a dramatic reduction in the abundance of lake trout in southern Georgian Bay. The presence of unclipped fish in the catch suggests that at least some natural reproduction has occurred within or around this QMA.

RECOMMENDATION: -10%

Lake Trout QMA 6-1

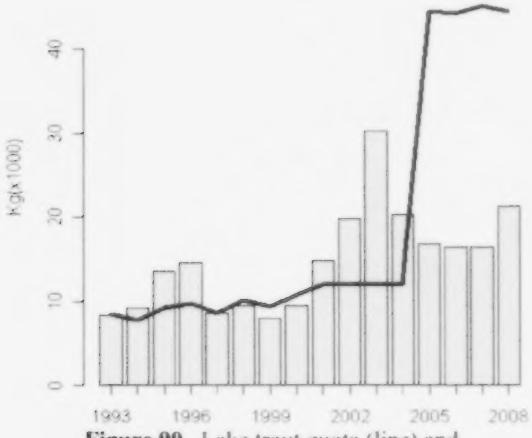

Figure 90. Lake trout quota (line) and harvest (bars) from management area 6-1.

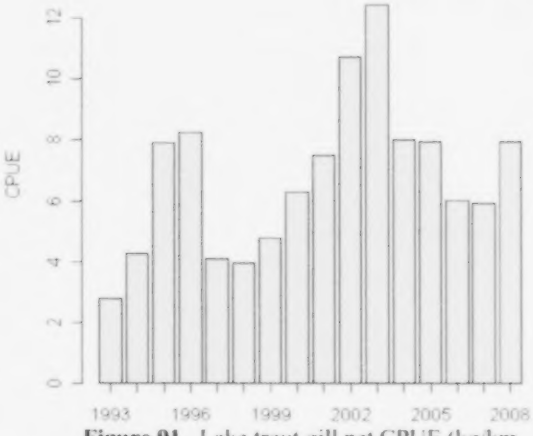

Figure 91. Lake trout gill net CPUE (kg/km for management area 6-1.

Harvest of lake trout was up noticeably in 2008, although it continued to be below the peak reported in 2003 (Fig. 90). Just under half (45.8%) of the allocated quota in this QMA was harvested in 2008. However, only 65.0% of the lake whitefish quota was harvested in 2008, which has direct implications to lake trout harvest.

The CPUE of lake trout in lake whitefish targeted nets was up relative to 2006 and 2007 and was comparable to the CPUE values reported in 2004 and 2005 (Fig. 91). The ICR of lake trout in lake whitefish efforts was up slightly in 2008 (11%) but continues to be below the lake wide average.

Biological attributes were collected from 335 lake trout sampled from the commercial catch. Sixteen CWT were recovered from this QMA in 2008. The sampled catch included eight age classes ranging from age two to 13 years, with age four fish dominating. The mean age was 4.01 and has been decreasing since 2005. Despite the dominance of young fish in the catch, the total annual mortality estimated using catch curve analysis was only 32.7%. This low mortality should be considered carefully as only four individuals older than seven years of age were actually observed in the catch. The number of unclipped and presumably wild lake trout continued to increase in this QMA. In 2008, 37% of the sampled lake trout were unclipped.

Stocking of lake trout continues in the North Channel. QMA 6-1 contains two LTRZs. All lake trout stocking in QMA 6-1 is currently associated with LTRZ 2 (eastern North Channel). Between 1997 and 2007, an average of almost 215,000 yearling lake trout was stocked annually into the waters of the North Channel, mostly in the vicinity of Gore Bay. It is expected that these fish will continue to recruit to the commercial and recreational fisheries for the next several years.

Summary and Recommendation

Commercial harvest of lake trout has been relatively stable for the past seven years in QMA 6-1. The under-utilization of the quota is largely attributable to inactive fisheries in this area. Total annual mortality is currently consistent with lake trout rehabilitation objectives, although the age composition of the catch continues to be dominated by relatively young fish. The presence of unclipped fish in the catch suggests that some degree of natural reproduction is occurring in the vicinity of the North Channel.

RECOMMENDATION: No Change

Lake Trout QMA 6-3

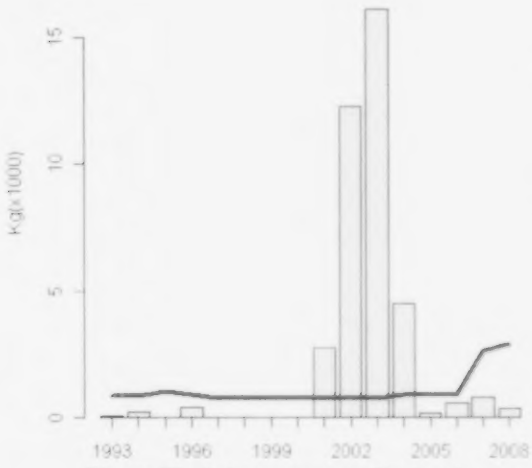

Figure 92. Lake trout quota (line) and harvest (bars) from management area 6-3.

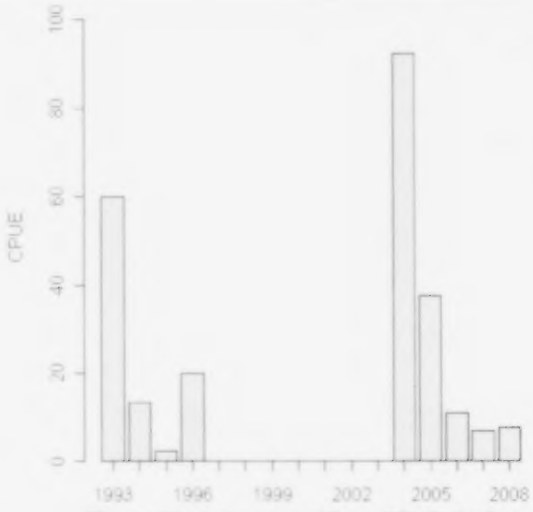

Figure 93. Lake trout gill net CPUE (kg/km for management area 6-3.

Harvest of lake trout was down from 2007 while CPUE was up slightly (Figs 92 and 93). Both harvest and CPUE have been variable in this QMA and are currently much lower than in recent years.

The ICR increased in 2008 to 34.1%. Although this ICR was much lower than recent years in this QMA, it was still high relative to other parts of the lake.

Unfortunately, there were no samples collected from the commercial harvest of lake trout in QMA 6-3, precluding a description of the age distribution of the catch or the calculation of catch curve mortality estimates.

This QMA is in close proximity to a number of LTRZs including Heywood Island (LTRZ 3) and Iroquois Bay (LTRZ 5). Stocking in QMA 6-3 has occurred almost continuously since the 1970s. Between 1997 and 2007, an average of 142,000 yearling lake trout was stocked annually in QMA 6-3.

Summary and Recommendation

Production quota for lake trout was allocated to QMA 6-3 for the first time in 2007, although realized harvest levels continue to be much lower. Given recent stocking activities, abundance of lake trout is expected to increase in this QMA in the future.

RECOMMENDATION: No Change

Lake Herring - Overall

This was the third year that there were lake herring quotas for Lake Huron. While quota existed in all three basins of the lake, the majority of harvest occurred in the North Channel, where 93% of lake herring quota was filled. On a lake wide basis, 20.3% of lake herring quota was filled in 2008.

Harvest of lake herring increased slightly in QMA 5-7 despite a substantial drop in effort. However, in the North Channel, both harvest and reported CPUE are amongst the lowest observed since 1993.

Lake herring quota does not seem to be limiting lake whitefish, yellow perch or walleye harvest in any QMA. Available biological data indicates that the mean age of lake herring is increasing, although recruitment is uncertain. In many parts of the lake, the status of lake herring is indeterminate due to their relatively infrequent occurrence in the commercial fishery and the corresponding lack of biological information.

Lake Herring QMA 5-7

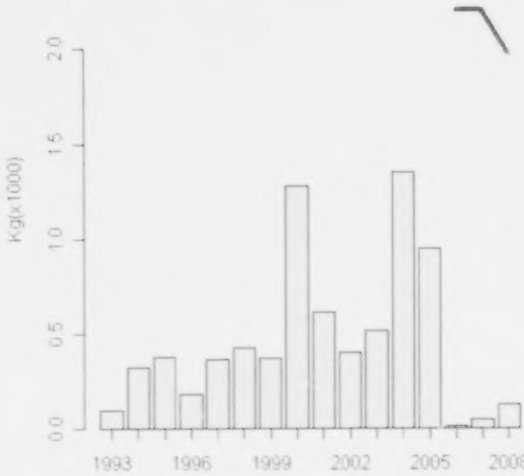

Figure 94. Lake herring quota (line) and harvest (bars) from management area 5-7.

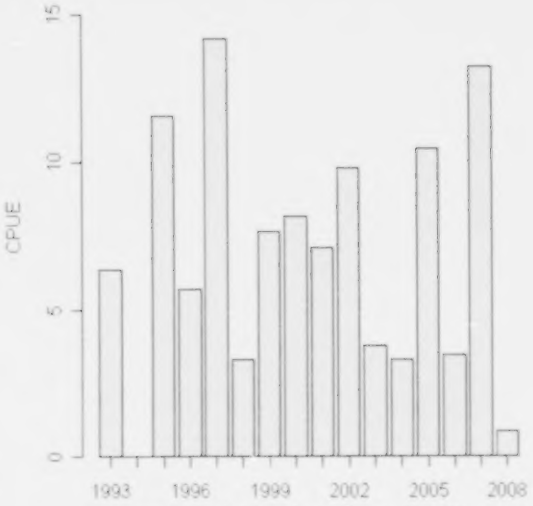

Figure 95. Lake herring gill net CPUE (kg/km) in lake whitefish targeted effort for management area 5-7.

Harvest of lake herring in this QMA increased in 2008 for the second year in a row. However, harvest still remains substantially lower than the 2004 and 2005 period (Fig. 94). The number of commercial fishing efforts that have reported catching lake herring in this QMA has dropped off substantially since 2005. Between 2000 and 2005, lake herring were reported caught in an average of 36.8 efforts per year. Since then they have only been reported in 5.3 efforts per year. Most of the herring harvested in this QMA is caught incidentally in lake whitefish and walleye targeted efforts, although some harvest has been reported from efforts targeting other species as well. Lake herring have not been reported as a targeted species in this QMA since 2005.

While the CPUE of lake herring has been highly variable, the reported CPUE for 2008 was the lowest value reported over the past 12 years (Fig. 95). This is in sharp contrast to the CPUE from 2007, which was one of the highest since 1993.

No lake herring samples were collected from the commercial harvest of lake herring in QMA 5-7; hence, no discussion about the age distribution of the catch or the calculation of catch curve mortality estimates is possible.

Summary and Recommendation

Status of the lake herring stocks in this zone is highly uncertain due to limited information. They are infrequently observed or reported in the commercial catch. It appears that the newly established quotas are well in excess of the current catches.

RECOMMENDATION: -20%

Lake Herring QMA 6-1

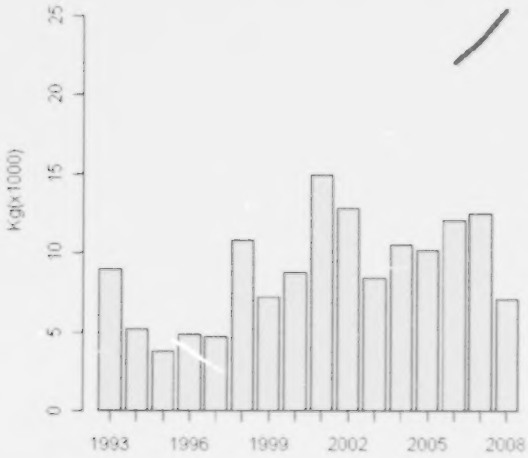

Figure 96. Lake herring quota (line) and harvest (bars) from management area 6-1.

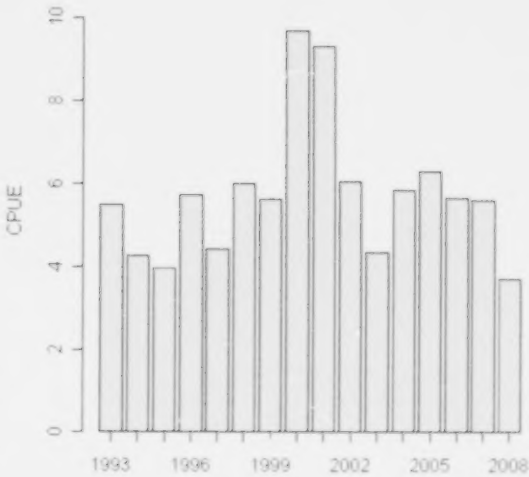

Figure 97. Lake herring gill net CPUE (kg/km) in lake whitefish targeted effort for management area 6-1.

Relative to 2007, harvest of lake herring dropped in 2008 after several years of increasing harvests (Fig. 96). The harvest reported in 2008 was the lowest reported in the last decade. Virtually all of the lake herring harvest is reported from lake whitefish targeted effort and the total fishing effort (in km) with lake herring associated with it dropped in 2008. The reported CPUE of lake herring was down in 2008, and was among the lowest values reported over the past 15 years (Fig. 97).

There were 69 lake herring sampled from the commercial catches in QMA 6-1 in 2008. Unfortunately, age estimates for these fish are not currently available, precluding a discussion about the age distribution of the catch or the calculation of catch curve mortality estimates.

Data from UGLMU's North Channel Offshore Index indicates that the mean age of lake herring has been steadily increasing since 1999 while recruitment of younger age classes is uncertain.

Summary and Recommendation

Harvest of lake herring was down in 2008 relative to the past four or five years. CPUE was also down and among the lowest reported in the past 15 years. No commercial fishing activities were impeded by lake herring quota in 2008 and current quota levels appear to be higher than necessary to accommodate their incidental catch when targeting lake whitefish.

RECOMMENDATION: -10%

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Appendix A – Stock Evaluation Protocol Forms for Lake Whitefish in Lake Huron for 2008

QMA: 4-1	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	No trend over 2 consecutive years	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
SCAA (QMA 4-1, 4-2 and 4-3 combined)					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- Low numbers of younger age classes (especially 5 and 6 year olds) is a concern and is driving the VPA biomass estimates
- Weight at age continues to be depressed
- Exploitable Biomass is trending downward (in both VPA and SCAA models)
- SCAA results are combine effect and may not reflect 4-1
- Variability in indicators is an issue
- Current harvest levels are well below available quota.

QMA: 4-2	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	**No trend over 2 consecutive years**	Decline over 2 consecutive years	**Decline over >3 consecutive years**
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	**Multi aged with > 8 year classes**	**Multi aged with ≤ 8 year classes**	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	**Minor Negative Change**	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	**No Change**	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS (ADMB Terminal F's)					
Total Annual Mortality	<0.45	**0.45 to 0.6**	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	**Substantial decrease over 3 consecutive years**	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	**30% to 40%**	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	**40% to 50%**	>50%
SCAA (QMA 4-1, 4-2 and 4-3 combined)					
Total Annual Mortality	<0.45	**0.45 to 0.6**	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	**Substantial decrease over 3 consecutive years**	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	**Unchanged**	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	**<0.5**	<0.8	< 1.0	>1	>1.5
SPR	**>0.45**	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	**<20%**	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- CPUE has been declining in Trap nets but has remained unchanged in gill nets
- Recruitment in the northern half of the lake continues to be very uncertain and there were fewer 5 & 6 year olds in the catch from gill nets.
- Biomass continues to decline
- Indicators appear to be variable.

QMA: 4-3	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	**No trend over 2 consecutive years**	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	**Multi aged with > 8 year classes**	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	**No Change**	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	**Minor Positive Change**	No Change	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	**<0.45**	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	**>0.70**
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	**Substantial decrease over 3 consecutive years**	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	**<20%**	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
SCAA (QMA 4-1, 4-2 and 4-3 combined)					
Total Annual Mortality	<0.45	**0.45 to 0.6**	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	**Substantial decrease over 3 consecutive years**	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	**Decrease over 1-2 years**	Decrease over more than 2 years
Ratio of F:M	**<0.5**	<0.8	< 1.0	>1	>1.5
SPR	**>0.45**	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	**<20%**	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- Mortality from catch curve is very high – largely due to the strength of 2000 year class (8 year olds) in the catch.
- Biomass continues to decline in this QMA (like the rest of Northern Main Basin) – largely attributable to the low numbers of 5 and 6 year old fish.
- EBH is currently low (<20%) but could exceed 50% if quota is achieved.
- Recruitment is very uncertain.

QMA: 4-4	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	**No trend over 2 consecutive years**	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	**3 + weak year classes predicted**
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	**Multi aged with > 8 year classes**	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	**Minor Positive Change**	No Change	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	**No Change**	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	**0.45 to 0.6**	0.6 to 0.65	**0.65 to 0.70**	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	**Substantial decrease over 5 consecutive years**
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	**20% to 30%**	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	**30% to 40%**	40% to 50%	>50%
SCAA (QMA 4-4 and 4-7 combined)					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- The last strong year class from index was 2003. Subsequent year classes have had PRI values less 4.4 (including some zeroes).
- Catch curve mortality much higher (65.7%) than cohort analysis (49.1%)
- SCAA model results for this QMA are unreliable and need to be revisited.
- Strong recruitment of the 2003 year class is expected to continue and biomass may increase in the short-term. The real concern is the low recruitment of future year classes.
- It is estimated that the EBH ratio would increase to more than 50% if the quota was achieved in 2009.

QMA: 4-5	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	No trend over 2 consecutive years	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
SCAA (QMA 4-5).					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- There are several year classes with average or above average strength about to enter the fishery in this part of the lake.
- 13 age classes in gill nets, 9 in trap nets (although trap nets account for very small part of harvest)
- Mortality estimates from catch curve are higher (63.2%) than those derived from VPA (48.9%).
- Fish younger than 3 years of age were observed larger number in the fishery for the first time in several years in this QMA and the index predicts that recruitment of several upcoming year classes is above average.
- There continues to be a discrepancy between cohort and SCAA models (SCAA models estimate much higher biomass).

QMA: 5-1	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	No trend over 2 consecutive years	Decline over 2 consecutive years	**Decline over >3 consecutive years**
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	**Multi aged with > 10 year classes**	Multi aged with > 8 year classes	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	**No Change**	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	**No Change**	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	**<0.45**	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	**Substantial decrease over 5 consecutive years**
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	**30% to 40%**	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	**40% to 50%**	>50%
SCAA					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- This QMA continues to have a very broad age composition.
- CPUE has been dropping steadily in recent years.
- Cohort modelling suggests that current exploitation levels are not excessive, but may be at the limit.

QMA: 5-2	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	No trend over 2 consecutive years	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
SCAA					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- CPUE has generally been increasing in recent years, but has been highly variable (often alternating between years).
- There is not biological data available for this QMA since 2005. Adjacent QMA's in Georgian Bay generally have broad age distributions.

QMA: 5-3	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher / lower →
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	**No trend over 2 consecutive years**	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	**Multi aged with ≤ 8 year classes**	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	**Minor Negative Change**	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	**No Change**	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	**<0.45**	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	**Substantial decrease over 2 consecutive years**	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	**<20%**	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	**20% to 30%**	30% to 40%	40% to 50%	>50%
SCAA					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- CPUE has fluctuated without trend for several years
- Age composition has a fairly large number of age classes and is similar to most years
- Mean age and other demographic parameters are stable
- Exploitation does not appear to be excessive.
- Recruitment is uncertain

QMA: 5-4	Status of Stock				
Parameter	← lower Risk higher →			higher Risk lower	
	Health/Sustainability				
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	No trend over 2 consecutive years	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
SCAA					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- First catch samples in this QMA since 2003.
- Sampled 50 fish in 2008. Age distribution appears to be fairly broad.
- Catch curve mortality estimate was 42.0%
- CPUE is comparable to the period between 1995-2000.

QMA: 5-6	Status of Stock				
Parameter	← lower Risk higher →				
	Higher Health/Sustainability lower				
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	**No trend over 2 consecutive years**	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	**Multi aged with ≤ 8 year classes**	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	**No Change**	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	No Change	**Minor Negative Change**	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	**<0.45**	**0.45 to 0.6**	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	**No substantial change over 2 consecutive years**	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	**<20%**	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	**20% to 30%**	30% to 40%	40% to 50%	>50%
SCAA					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- CPUE in this QMA is lower than other parts of the lake, and is stable.
- Weight at age (especially for 6 and 8 year olds) has been declining slowly since 2001
- The age composition fairly wide and total annual mortality is not excessive (57.9% from catch curve, 43.7% from cohort).
- Current and projected exploitation does not appear to be excessive if harvest remains unchanged. If harvest increased to 2008 quota levels, EBH ration is expected to exceed 50%.
- Quota continues to be well above realized harvest levels.

QMA: 5-7	Status of Stock				
Parameter	← lower Risk higher →			higher Risk lower →	
	Health/Sustainability				
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	No trend over 2 consecutive years	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
SCAA					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- The low number of 5 and 6 year old fish in the catch may be an artefact of larger mesh sizes fished in this QMA
- The mean age of the catch has been slowly increasing since 2005
- The composition in this QMA continues to be truncated, although total annual mortality does not appear to be excessive. There is also a lower proportion of younger fish since 2005.
- Mortality from catch curve (52.7%) was slightly higher than VPA (44.8%)
- Exploitation rates are not currently excessive, but 2008 quota levels are greater than projected for 2009.
- Like other areas without an index program, recruitment in this QMA is uncertain.

QMA: 5-8	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	**Increase over >2 consecutive years**	Increase over 2 consecutive years	No trend over 2 consecutive years	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	**3 + weak year classes predicted**
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	**Multi aged with ≤ 8 year classes**	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	**Minor Negative Change**	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	No Change	**Minor Negative Change**	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	**<0.45**	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	**>0.70**
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	**Substantial decrease over 2 consecutive years**	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	**40% to 50%**	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	**>50%**
SCAA					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- CPUE continues to increase and is in sharp contrast to other indicators in this QMA.
- Index netting continues to suggest that recruitment is very poor in southern Georgian Bay.
- Although sample size was low in 2008, the age composition continues to show sign of constricting, with few young or old individuals and mean age has increased by one full year since 2004.
- Catch curve mortality (72.2%) was substantially higher than the estimate from cohort model (43.5%)
- Cohort modelling suggests that total annual mortality is not excessive, but that exploitable biomass is likely to decline in future years.
- Current and forecasted harvest rates are well above the 35% threshold.
- SCAA model produced unrealistic parameter estimates and was not used in evaluating stock status.

QMA: 5-9	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher / lower →
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	**No trend over 2 consecutive years**	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	**3 + weak year classes predicted**
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	**Multi aged with ≤ 8 year classes**	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	**Minor Negative Change**	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	**No Change**	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	**0.45 to 0.6**	0.6 to 0.65	0.65 to 0.70	**>0.70**
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	**Substantial decrease over 2 consecutive years**	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	**40% to 50%**	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	**>50%**
SCAA					
Total Annual Mortality	<0.45	**0.45 to 0.6**	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	**Substantial decrease over 3 consecutive years**	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	**Decrease over 1-2 years**	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	**20% to 30%**	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	**30% to 40%**	40% to 50%	>50%

Notes:

- The age composition of the catch continues to be dominated by the 2001 year class. Younger fish are rare.
- There is little evidence of subsequent year classes (index data from 5-8).
- Weight at age is lower in the last 3 years than it was previously.
- Total mortality estimate from catch curve (70.3%) is much higher than cohort analysis (49.1%)
- Estimates of exp. biomass are trending downward and current levels of exploitation are above the 35% threshold, furthermore, 2008 quota levels are greater than projected biomass for 2009.
- SPR (from SCAA) is lower than other QMAs.

QMA: 6-1	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	**No trend over 2 consecutive years**	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	**Multi aged with > 10 year classes**	Multi aged with > 8 year classes	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	**No Change**	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	**Minor Positive Change**	No Change	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	**0.45 to 0.6**	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	**No substantial change over 2 consecutive years**	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	**30% to 40%**	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	**>50%**
SCAA					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	**>0.70**
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	**No substantial change over 2 consecutive years**	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	**Decrease over 1-2 years**	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	**< 1.0**	>1	>1.5
SPR	>0.45	>0.35	**>0.20**	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	**20% to 30%**	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	**30% to 40%**	40% to 50%	>50%

Notes:

- The age composition continues to be fairly broad with evidence of future year classes and total mortality estimated from both cohort and catch curve does not appear to be excessive. The total mortality from SCAA model is noticeably higher than other mortality estimates.
- The mean age of harvested fish in this QMA is younger than most other parts of the lake,
- Both the SCAA and cohort models suggest that biomass in this QMA has been slowly declining since 2000, but increased slightly in 2008, largely due to the recruitment of the 2003 year class.
- Strength of subsequent year classes is uncertain.

QMA: 6-3	Status of Stock				
Parameter	← lower / higher		Risk / Health/Sustainability		higher → / lower
CPUE Commercial Harvest	Increase over >2 consecutive years	Increase over 2 consecutive years	No trend over 2 consecutive years	Decline over 2 consecutive years	Decline over >3 consecutive years
Predicted Recruitment from Independent Index	3 or more strong year classes predicted	1 or 2 strong year classes predicted	Average year classes predicted	1 or 2 weak year classes predicted	3 + weak year classes predicted
Age Structure of Catch	Multi aged with > 12 year classes	Multi aged with > 10 year classes	Multi aged with > 8 year classes	Multi aged with ≤ 8 year classes	Multi aged with ≤ 6 year classes
Mean Age of Catch	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Size at Age	Major Positive Change	Minor Positive Change	No Change	Minor Negative Change	Major Negative Change
Age Mature : Mean Age	>=0.6	>=0.7	>=0.8	>=0.9	>=1.0
COHORT ANALYSIS					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
Ratio of Harvest : Exploitable Biomass Estimate 2008 / 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
SCAA					
Total Annual Mortality	<0.45	0.45 to 0.6	0.6 to 0.65	0.65 to 0.70	>0.70
Estimated Exploitable Biomass	Substantial increase over 2 consecutive years	No substantial change over 2 consecutive years	Substantial decrease over 2 consecutive years	Substantial decrease over 3 consecutive years	Substantial decrease over 5 consecutive years
SSB	Increase over more than 2 years	Increase over 1-2 years	Unchanged	Decrease over 1-2 years	Decrease over more than 2 years
Ratio of F:M	<0.5	<0.8	< 1.0	>1	>1.5
SPR	>0.45	>0.35	>0.20	<0.20	<0.15
Ratio Harvest : Est. Exploitable Biomass 2008 and 2009	<20%	20% to 30%	30% to 40%	40% to 50%	>50%
	<20%	20% to 30%	30% to 40%	40% to 50%	>50%

Notes:

- Extremely small fishery with limited effort in recent years.
- Lack of data makes stock assessment difficult.

Appendix B – Catch at Age Tables

Table 4-1.9. The estimated number of lake trout caught in gill nets in management area 4-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	188	0	0	0	0	0	0			0	0		0
2	124	1,178	0	1,130	0	0	0	0	0	0			0	0		0
3	1,114	2,826	203	188	166	0	0	1,747	0	0			0	0		0
4	2,847	2,355	1,961	1,883	1,495	1,174	410	3,057	4,218	1,684	N	N	0	772	N	0
5	867	1,649	2,028	2,824	1,661	1,174	1,368	873	402	2,526	O	O	0	2,315	O	1,115
6	371	236	473	377	498	2,347	684	873	603	1,684			0	2,315		2,354
7	0	0	68	0	166	0	410	0	402	0			8,149	2,315		372
8	0	0	0	0	0	0	410	0	402	842	D	D	0	0	D	124
9	0	0	0	0	0	0	0	0	201	0	A	A	0	0	A	496
10	0	0	0	0	0	0	0	0	0	0	T	T	0	0	T	248
11	0	0	0	0	0	0	0	0	0	0	A	A	0	0	A	124
12	0	0	0	0	0	0	274	0	0	0			0	0		372
13	0	0	0	0	0	0	0	0	0	0			0	0		124
14	0	0	0	0	0	0	0	0	0	0			0	0		0
15	0	0	0	0	0	0	0	0	0	0			0	0		0
Total	5,323	8,243	4,733	6,590	3,986	4,694	3,557	6,550	6,227	6,736	0	0	8,149	7,718	0	5,328
Mean Age	4.05	3.63	4.63	4.09	4.75	5.25	6.19	4.13	4.87	5.38	--	--	7.00	5.80	--	7.07

Table 4-1.10. CPUE (number/km) for lake trout caught in gill nets in management area 4-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0							0.0								
2	0.3							0.0								
3	2.7							9.4								
4	7.0	N	N	N	N	N	N	16.5	N	N	N	N	N	N	N	N
5	2.1	O	O	O	O	O	O	4.7	O	O	O	O	O	O	O	O
6	0.9							4.7								
7	0.0							0.0								
8	0.0	D	D	D	D	D	D	0.0	D	D	D	D	D	D	D	D
9	0.0	A	A	A	A	A	A	0.0	A	A	A	A	A	A	A	A
10	0.0	T	T	T	T	T	T	0.0	T	T	T	T	T	T	T	T
11	0.0	A	A	A	A	A	A	0.0	A	A	A	A	A	A	A	A
12	0.0							0.0								
13	0.0							0.0								
14	0.0							0.0								
15	0.0							0.0								
Total	13.1	0.0	0.0	0.0	0.0	0.0	0.0	35.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	43	54	296	77	97	20	26	40	40	20	0	0	3	11	0	87
Trips	1	2	6	3	3	1	1	1	1	1	0	0	0	0	0	2

Table 4-2.9. The estimated number of lake trout caught in gill nets in management area 4-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
2	0	55	142	84	93	0	0	0	155		0	0	0	0	0	0
3	323	799	283	0	466	0	180	96	311		1,186	0	1,556	516	0	190
4	462	854	793	840	746	0	299	384	932	N	9,489	0	0	0	969	379
5	462	386	311	924	186	578	419	672	932	O	1,186	951	1,556	3,611	1,616	1,138
6	138	248	311	168	93	578	299	288	311		0	951	5,447	3,095	323	569
7	0	28	170	0	0	0	180	288	466		0	2,852	2,334	2,063	646	1,138
8	0	28	28	84	93	0	0	0	621	D	0	951	0	1,032	1,616	1,328
9	0	28	0	0	0	0	60	0	0	A	0	951	0	516	646	759
10	0	0	0	0	0	0	60	0	155	T	0	0	0	0	323	0
11	0	0	28	0	0	0	0	96	0	A	0	0	0	0	0	379
12	0	0	0	0	0	0	0	0	0		0	0	0	0	0	190
13	0	0	0	0	0	0	0	0	0		0	0	0	0	0	190
14	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Total	1,385	2,425	2,067	2,100	1,678	1,157	1,497	1,824	3,882	0	11,862	6,656	10,894	10,832	6,139	6,260
Mean Age	4.30	4.13	4.58	4.68	4.06	5.50	5.36	5.47	5.48	--	4.00	7.00	5.64	6.05	6.58	7.27

Table 4-2.10. CPUE (number/km) for lake trout caught in gill nets in management area 4-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0															
2	0.0															
3	2.4															
4	3.4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	3.4	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6	1.0															
7	0.0															
8	0.0	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
9	0.0	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	0.0	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
11	0.0	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12	0.0															
13	0.0															
14	0.0															
15	0.0															
Total	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	30	164	138	99	39	12	25	34	54	0	20	19	19	27	20	77
Trips	1	5	5	3	1	0	1	1	2	0	1	1	1	1	1	2

Table 4-3.9. The estimated number of lake trout caught in gill nets in management area 4-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0	0	0	0			0
2	774	93	313	229	0	49	73	0	232	0	0	0	0			0
3	3,869	935	870	0	106	49	73	1,091	811	739	108	0	1,203			0
4	1,547	935	1,670	1,143	1,062	485	146	2,546	2,896	3,449	3,554	1,126	0	N	N	1,377
5	774	935	557	1,600	1,062	534	364	1,819	927	1,478	2,585	5,631	0	O	O	0
6	774	467	731	686	1,062	388	218	2,182	463	246	538	2,253	3,610			688
7	0	0	278	457	212	194	291	727	463	1,971	108	1,126	3,610			0
8	387	0	104	229	212	97	291	727	232	493	215	2,253	0	D	D	0
9	0	0	0	0	0	0	0	1,091	0	493	0	0	0	A	A	688
10	0	0	0	0	0	0	0	0	0	493	0	0	0	T	T	0
11	0	0	0	0	0	0	0	0	116	0	323	0	0	A	A	0
12	0	0	0	0	0	0	0	364	0	0	0	0	0			0
13	0	0	0	0	0	0	73	0	0	0	0	0	0			0
14	0	0	0	0	0	0	73	0	0	0	0	0	0			0
15	0	0	0	0	0	0	0	0	0	0	0	0	0			0
Total	8,124	3,364	4,524	4,342	3,716	1,795	1,601	10,548	6,139	9,362	7,431	12,389	8,424	0	0	2,753
Mean Age	3.81	4.22	4.39	5.11	5.23	5.19	6.50	5.76	4.60	5.55	4.94	5.82	6.00	–	–	5.75

Table 4-3.10. CPUE (number/km) for lake trout caught in gill nets in management area 4-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0													
2	3.5	1.1	13.5													
3	17.3	11.1	37.5													
4	6.9	11.1	72.1	N	N	N	N	N	N	N	N	N	N	N	N	N
5	3.5	11.1	24.0	O	O	O	O	O	O	O	O	O	O	O	O	O
6	3.5	5.5	31.5													
7	0.0	0.0	12.0													
8	1.7	0.0	4.5	D	D	D	D	D	D	D	D	D	D	D	D	D
9	0.0	0.0	0.0	A	A	A	A	A	A	A	A	A	A	A	A	A
10	0.0	0.0	0.0	T	T	T	T	T	T	T	T	T	T	T	T	T
11	0.0	0.0	0.0	A	A	A	A	A	A	A	A	A	A	A	A	A
12	0.0	0.0	0.0													
13	0.0	0.0	0.0													
14	0.0	0.0	0.0													
15	0.0	0.0	0.0													
Total	36.4	39.9	195.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	21	112	207	132	66	54	22	136	72	93	106	16	11	0	0	13
Trips	1	4	7	4	2	2	1	5	2	3	4	1	0	0	0	0

Table 4-4.9. The estimated number of lake trout caught in gill nets in management area 4-4. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	71		0									
2	**0**	**472**	**173**	**0**	**0**		**0**									
3	167	1,416	471	2,122	465		387									
4	**1,000**	**682**	**974**	**2,122**	**2,180**	**N**	**1,546**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
5	444	1,101	2,498	2,122	3,216	O	773	O	O	O	O	O	O	O	O	O
6	**167**	**157**	**503**	**0**	**1,572**		**3,479**									
7	222	52	173	0	179		193									
8	**56**	**105**	**79**	**0**	**71**	**D**	**193**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
9	0	0	0	0	0	A	0	A	A	A	A	A	A	A	A	A
10	**0**	**0**	**31**	**0**	**0**	**T**	**0**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**
11	0	0	0	0	0	A	193	A	A	A	A	A	A	A	A	A
12	**0**	**0**	**0**	**0**	**0**		**0**									
13	0	0	0	0	0		193									
14	**0**	**0**	**0**	**0**	**0**		**0**									
15	0	0	0	0	0		0									
Total	2,055	3,986	4,902	6,365	7,754	0	6,959	0	0	0	0	0	0	0	0	0
Mean Age	4.73	3.91	4.76	4.00	4.84	--	5.69	--	--	--	--	--	--	--	--	--

Table 4-4.10. CPUE (number/km) for lake trout caught in gill nets in management area 4-4. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1																
2																
3																
4	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
5	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6																
7																
8	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
9	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**
11	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12																
13																
14																
15																
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	37	267	832	42	520	0	52	0	0	0	0	0	0	0	0	0
Trips	1	9	21	1	12	0	1	0	0	0	0	0	0	0	0	0

Table 4-5.9. The estimated number of lake trout caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	332	0	296	91	187	93	0	0	0	0	0	0	0	0	0
2	2,168	886	3,566	444	1,269	560	541	931	517	0	0	0	0	0	0	0
3	1,183	2,327	6,436	7,847	1,677	2,407	1,871	432	2,258	3,624	1,643	0	0	0	0	0
4	986	1,884	9,179	4,441	8,315	2,884	3,139	266	3,293	5,200	18,073	3,962	0	0	0	2,696
5	197	388	7,955	15,101	11,962	7,906	3,989	12,869	2,211	12,685	14,787	25,094	18,886	4,439	4,759	0
6	986	794	1,350	1,332	4,667	3,631	11,565	6,484	9,314	4,491	7,393	29,497	23,886	22,195	14,277	10,793
7	1,183	111	675	296	974	622	2,829	4,722	3,528	4,806	0	9,245	1,111	13,317	15,863	20,236
8	0	0	148	148	68	311	340	931	2,070	945	5,750	4,843	2,777	0	9,518	8,095
9	0	18	211	296	23	41	216	67	423	2,127	0	3,962	1,111	0	793	1,349
10	0	18	317	592	45	83	232	100	47	315	0	880	0	0	2,380	2,698
11	0	0	42	444	0	21	247	0	235	0	0	440	1,111	2,220	0	0
12	0	0	0	0	45	21	62	0	94	0	0	440	0	0	793	1,349
13	0	0	0	0	0	21	62	33	0	0	0	0	555	0	0	1,349
14	0	0	0	0	0	0	15	100	47	158	0	0	0	1,110	0	1,349
15	0	0	0	0	0	0	0	67	94	0	0	0	0	0	0	0
Total	6,702	6,759	29,879	31,238	29,135	18,695	25,201	27,001	24,132	34,351	47,647	78,364	49,438	43,280	48,384	49,917
Mean Age	4.03	3.62	4.10	4.57	4.71	4.82	5.55	5.64	5.77	5.47	5.07	6.08	6.01	6.67	6.97	7.49

Table 4-5.10. CPUE (number/km) for lake trout caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1					1.5						0.0	0.0				0.0
2					20.7						0.0	0.0				0.0
3					27.4						3.8	0.0				0.0
4	N	N	N	N	135.8	N	N	N	N	N	41.7	0.6	N	N	N	2.6
5	O	O	O	O	195.4	O	O	O	O	O	34.1	3.9	O	O	O	0.0
6					76.3						17.1	4.6				10.5
7					15.9						0.0	1.4				19.7
8	D	D	D	D	1.1	D	D	D	D	D	13.3	0.8	D	D	D	7.9
9	A	A	A	A	0.4	A	A	A	A	A	0.0	0.6	A	A	A	1.3
10	T	T	T	T	0.7	T	T	T	T	T	0.0	0.1	T	T	T	2.6
11	A	A	A	A	0.0	A	A	A	A	A	0.0	0.1	A	A	A	0.0
12					0.7						0.0	0.1				1.3
13					0.0						0.0	0.0				1.3
14					0.0						0.0	0.0				1.3
15					0.0						0.0	0.0				0.0
Total	0.0	0.0	0.0	0.0	476.0	0.0	0.0	0.0	0.0	0.0	109.9	12.2	0.0	0.0	0.0	48.5
Size	35	513	1640	1325	1468	953	1652	1456	992	705	144	225	105	47	81	75
Trips	1	17	41	39	31	21	24	22	18	15	5	6	4	2	2	3

Table 4-5.25. The estimated number of lake trout caught in trap nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0		0	0	0	0	0	0	0	0	0			0
2	0	0	0		0	0	0	0	0	0	0	0	0			0
3	0	0	0		67	39	0	0	499	0	0	0	0			0
4	26	66	29	N	316	272	1,177	458	0	0	0	0	0	N	N	0
5	77	19	123	O	516	834	1,912	5,500	0	0	0	0	3,899	O	O	367
6	0	142	65		416	291	1,235	5,042	5,485	649	0	15,593	1,949			122
7	26	0	29		50	58	471	3,667	3,989	2,597	0	0	0			122
8	0	9	0	D	0	0	147	0	1,496	0	12,552	0	0	D	D	245
9	0	0	0	A	0	0	0	0	0	4,545	0	0	0	A	A	245
10	0	9	15	T	0	0	29	0	0	1,948	0	0	0	T	T	245
11	0	0	7	A	0	0	0	0	0	0	0	0	0	A	A	245
12	0	0	0		0	0	0	0	0	0	0	0	0			122
13	0	0	0		0	0	0	0	0	0	0	0	0			122
14	0	0	0		0	0	0	0	0	0	0	0	0			0
15	0	0	0		0	0	0	0	0	0	0	0	0			0
Total	129	246	269	0	1,366	1,493	4,971	14,667	11,468	9,738	12,552	15,593	5,848	0	0	1,835
Mean Age	5.20	5.62	5.78	--	5.05	5.04	5.32	5.81	6.48	8.47	8.00	6.00	5.33	--	--	8.60

Table 4-5.26. CPUE (number/net lift) for lake trout caught in trap nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1																
2																
3																
4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6																
7																
8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
9	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
11	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12																
13																
14																
15																
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	5	33	71	0	101	160	170	72	55	39	19	2	4	0	0	23
Trips	0	1	2	0	3	2	5	2	2	1	1	0	0	0	0	1

Table 4-7.9. The estimated number of lake trout caught in gill nets in management area 4-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0								0			
2	18	21	0	0	0								0			
3	0	138	38	0	10								0			
4	90	74	126	1	46	N	N	N	N	N	N	N	0	N	N	N
5	18	95	76	3	36	O	O	O	O	O	O	O	0	O	O	O
6	18	21	63	0	46								0			
7	18	0	0	0	15								0			
8	18	0	13	0	0	D	D	D	D	D	D	D	0	D	D	D
9	0	0	0	0	0	A	A	A	A	A	A	A	772	A	A	A
10	0	0	0	0	0	T	T	T	T	T	T	T	0	T	T	T
11	0	0	0	0	0	A	A	A	A	A	A	A	0	A	A	A
12	0	0	0	0	0								0			
13	0	0	0	0	0								0			
14	0	0	0	0	0								0			
15	0	0	0	0	0								0			
Total	181	350	316	4	152	0	0	0	0	0	0	0	772	0	0	0
Mean Age	4.80	3.88	4.68	4.67	5.07	--	--	--	--	--	--	--	9.00	--	--	--

Table 4-7.10. CPUE (number/km) for lake trout caught in gill nets in management area 4-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1																
2																
3																
4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6																
7																
8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
9	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
11	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12																
13																
14																
15																
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	10	46	36	18	72	0	0	0	0	0	0	0	17	0	0	0
Trips	0	2	1	1	2	0	0	0	0	0	0	0	0	0	0	0

Table 5-1.9. The estimated number of lake trout caught in gill nets in management area 5-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1					110	0	0	0	0	0	0	0	0	0	0	0
2					0	0	0	0	1,414	0	0	0	0	0	0	0
3					55	203	0	0	1,225	0	0	0	0	140	142	573
4	N	N	N	N	937	338	1,645	0	2,639	1,628	2,226	988	197	419	852	1,720
5	O	O	O	O	386	1,148	164	0	471	0	1,336	2,964	2,558	209	568	0
6					220	338	493	0	2,828	0	0	988	787	1,675	426	1,147
7					0	0	164	2,777	94	651	0	0	197	907	710	0
8	D	D	D	D	165	0	0	0	94	0	0	0	197	279	142	573
9	A	A	A	A	0	0	0	0	94	163	0	0	197	140	142	0
10	T	T	T	T	0	0	0	0	94	163	0	0	197	0	0	573
11	A	A	A	A	0	0	0	0	0	0	0	0	0	0	142	0
12					0	0	0	0	94	0	0	0	0	0	0	0
13					0	0	0	0	0	0	0	0	0	0	0	0
14					0	0	0	0	0	0	0	0	0	0	0	0
15					0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1,874	2,027	2,467	2,777	9,049	2,605	3,562	4,939	4,328	3,768	3,124	4,587
Mean Age	--	--	--	--	4.59	4.80	4.67	7.00	4.50	5.44	4.38	5.00	5.77	6.11	5.82	5.63

Table 5-1.10. CPUE (number/km) for lake trout caught in gill nets in management area 5-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1																
2																
3																
4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6																
7																
8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
9	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
11	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12																
13																
14																
15																
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	0	0	0	0	35	30	15	100	97	48	13	5	29	67	42	19
Trips	0	0	0	0	1	1	1	3	3	2	0	0	1	2	1	1

Table 5-2.9. The estimated number of lake trout caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1					0		0		0		0	0	0			
2					0		244		10,259		0	53	0			
3					0		215		0		299	53	0			
4	N	N	N	N	2,353	N	1,824	N	0	N	1,377	585	0	N	N	N
5	O	O	O	O	0	O	1,680	O	0	O	1,616	426	1,029	O	O	O
6					0		72		0		0	1,330	64			
7					0		172		0		0	692	643			
8	D	D	D	D	0	D	919	D	0	D	0	266	386	D	D	D
9	A	A	A	A	0	A	0	A	0	A	0	106	129	A	A	A
10	T	T	T	T	0	T	86	T	0	T	0	53	0	T	T	T
11	A	A	A	A	0	A	14	A	0	A	0	0	0	A	A	A
12					0		29		0		0	0	0			
13					0		0		0		0	53	0			
14					0		0		0		0	0	0			
15					0		0		0		0	0	0			
Total	0	0	0	0	2,353	0	5,255	0	10,259	0	3,292	3,619	2,250	0	0	0
Mean Age	--	--	--	--	4.00	--	5.17	--	2.00	--	4.40	6.04	6.34	--	--	--

Table 5-2.10. CPUE (number/km) for lake trout caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1																
2																
3																
4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6																
7																
8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
9	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
11	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12																
13																
14																
15																
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	0	0	0	0	1	0	366	0	33	0	160	83	36	0	0	0
Trips	0	0	0	0	0	0	9	0	1	0	5	3	1	0	0	0

Table 5-3.9. The estimated number of lake trout caught in gill nets in management area 5-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0	0		0		0	0							0	0
2		403	302		0		3,596	13,121							0	0
3		1,410	2,720		0		4,944	0							0	0
4	N	0	2,216	N	2,531	N	1,798	0	N	N	N	N	N	N	484	1,765
5	O	0	806	O	2,109	O	0	0	O	O	O	O	O	O	0	679
6		0	302		2,531		0	0							484	136
7		0	101		211		0	0							484	0
8	D	0	0	D	1,054	D	0	0	D	D	D	D	D	D	484	0
9	A	0	0	A	0	A	0	0	A	A	A	A	A	A	0	0
10	T	0	0	T	0	T	0	0	T	T	T	T	T	T	0	0
11	A	0	0	A	0	A	0	0	A	A	A	A	A	A	0	136
12		0	0		0		0	0							0	0
13		0	0		0		0	0							0	0
14		0	0		0		0	0							0	0
15		0	0		0		0	0							0	0
Total	0	1,813	6,447	0	8,435	0	10,338	13,121	0	0	0	0	0	0	1,936	2,716
Mean Age	--	2.78	3.75	--	5.43	--	2.83	2.00	--	--	--	--	--	--	6.25	4.70

Table 5-3.10. CPUE (number/km) for lake trout caught in gill nets in management area 5-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0.0	0.0					0.0								
2		10.1	3.5					24.7								
3		35.4	31.5					0.0								
4	N	0.0	25.7	N	N	N	N	0.0	N	N	N	N	N	N	N	N
5	O	0.0	9.3	O	O	O	O	0.0	O	O	O	O	O	O	O	O
6		0.0	3.5					0.0								
7		0.0	1.2					0.0								
8	D	0.0	0.0	D	D	D	D	0.0	D	D	D	D	D	D	D	D
9	A	0.0	0.0	A	A	A	A	0.0	A	A	A	A	A	A	A	A
10	T	0.0	0.0	T	T	T	T	0.0	T	T	T	T	T	T	T	T
11	A	0.0	0.0	A	A	A	A	0.0	A	A	A	A	A	A	A	A
12		0.0	0.0					0.0								
13		0.0	0.0					0.0								
14		0.0	0.0					0.0								
15		0.0	0.0					0.0								
Total	0.0	45.5	74.7	0.0	0.0	0.0	0.0	24.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	0	10	108	0	159	0	467	274	0	0	0	0	0	0	7	42
Trips	0	0	3	0	1	0	1	2	0	0	0	0	0	0	0	1

Table 5-6.9. The estimated number of lake trout caught in gill nets in management area 5-6. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0	0	0	0	0	0		0	0		0		0	0	
2		70	592	0	0	3,648	0		0	0		0		0	0	
3		234	1,185	26,627	262	1,216	0		0	6,130		0		0	2,839	
4	N	0	4,738	0	131	0	0	N	0	0	N	0	N	0	0	N
5	O	0	592	0	2,746	0	3,378	O	1,483	0	O	4,471	O	0	0	O
6		0	0	0	5,230	0	0		0	0		0		0	0	
7		0	0	0	131	0	0		0	0		0		2,940	0	
8	D	0	0	0	262	0	0	D	0	0	D	0	D	0	0	D
9	A	0	0	0	0	0	0	A	0	0	A	0	A	0	0	A
10	T	0	0	0	0	0	0	T	0	0	T	0	T	0	0	T
11	A	0	0	0	0	0	0	A	0	0	A	0	A	0	0	A
12		0	0	0	0	0	0		0	0		0		0	0	
13		0	0	0	0	0	0		0	0		0		0	0	
14		0	0	0	0	0	0		0	0		0		0	0	
15		0	0	0	0	0	0		0	0		0		0	0	
Total	0	305	7,107	26,627	8,760	4,864	3,378	0	1,483	6,130	0	4,471	0	2,940	2,839	0
Mean Age	--	2.77	3.75	3.00	5.64	2.25	5.00	--	5.00	3.00	--	5.00	--	7.00	3.00	--

Table 5-6.10. CPUE (number/km) for lake trout caught in gill nets in management area 5-6. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1																
2																
3																
4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6																
7																
8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
9	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
11	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12																
13																
14																
15																
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	0	17	66	20	184	80	226	0	68	310	0	91	0	46	4	0
Trips	0	1	0	1	3	0	0	0	0	0	0	0	0	0	0	0

Table 5-7.9. The estimated number of lake trout caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1						0	0	0	0	0	0	0	0	0	0	0
2						0	0	0	614	0	0	0	0	0	0	0
3						908	27	0	0	1,363	31	22	47	0	0	0
4	N	N	N	N	N	971	1,460	0	0	240	10,862	284	47	0	0	0
5	O	O	O	O	O	532	730	0	0	13	310	7,473	3,874	292	227	0
6						251	81	0	154	151	0	153	9,522	1,804	795	115
7						0	189	1,553	0	0	0	0	467	2,340	1,477	57
8	D	D	D	D	D	16	162	0	307	13	0	44	93	195	682	344
9	A	A	A	A	A	16	27	0	0	25	0	22	280	97	341	229
10	T	T	T	T	T	0	0	0	0	13	0	22	0	0	114	0
11	A	A	A	A	A	0	0	0	0	0	31	0	0	49	227	0
12						0	27	0	0	0	0	0	0	0	0	115
13						0	0	0	0	0	0	0	0	0	0	229
14						0	0	0	0	0	0	0	0	0	0	0
15						0	0	0	0	0	0	0	0	0	0	115
Total	0	0	0	0	0	2,693	2,704	1,553	1,075	1,817	11,234	8,020	14,330	4,777	3,864	1,204
Mean Age	--	--	--	--	--	4.10	4.90	7.00	4.29	3.56	4.04	5.02	5.82	6.62	7.35	9.95

Table 5-7.10. CPUE (number/km) for lake trout caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1																
2																
3																
4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6																
7																
8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
9	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
11	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12																
13																
14																
15																
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	0	0	0	0	0	179	100	45	69	232	412	401	322	104	42	39
Trips	0	0	0	0	0	5	2	2	2	6	9	10	10	3	1	1

Table 5-8.9. The estimated number of lake trout caught in gill nets in management area 5-8. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	104	0	1,607	42	92	0	0	0	0	0	282				
2	0	622	482	0	547	369	403	66	0	0	0	282				
3	0	2,385	1,446	16,067	3,030	1,474	699	943	2,676	367	400	375				
4	8,653	830	11,324	0	1,010	5,252	4,514	943	669	3,563	3,532	7,509	N	N	N	N
5	0	311	4,578	0	2,861	645	2,122	1,997	0	105	3,731	8,166	O	O	O	O
6	0	104	0	0	7,616	2,488	430	241	2,007	681	200	3,004				
7	0	0	1,446	3,213	842	1,106	376	176	0	52	67	282				
8	0	0	723	1,607	0	92	349	22	334	0	67	282	D	D	D	D
9	0	0	241	3,213	0	0	54	0	0	0	0	94	A	A	A	A
10	0	0	0	0	0	0	54	0	0	0	0	94	T	T	T	T
11	0	0	0	0	0	0	0	22	0	0	0	0	A	A	A	A
12	0	0	0	0	0	0	0	0	0	0	0	0				
13	0	0	0	0	0	0	0	0	0	0	0	94				
14	0	0	0	0	0	0	0	0	0	0	0	0				
15	0	0	0	0	0	0	0	0	0	0	0	0				
Total	8,653	4,355	20,239	25,708	15,948	11,518	9,000	4,410	5,686	4,768	7,996	20,463	0	0	0	0
Mean Age	4.00	3.21	4.52	4.44	5.03	4.59	4.51	4.49	4.47	4.26	4.53	4.79	--	--	--	--

Table 5-8.10. CPUE (number/km) for lake trout caught in gill nets in management area 5-8. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0															
2	0.0															
3	0.0															
4	278.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	0.0	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6	0.0															
7	0.0															
8	0.0	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
9	0.0	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	0.0	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
11	0.0	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12	0.0															
13	0.0															
14	0.0															
15	0.0															
Total	278.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	1	77	287	359	808	412	354	464	178	341	280	568	0	0	0	0
Trips	0	3	4	7	20	5	7	8	5	8	7	11	0	0	0	0

Table 5-9.9. The estimated number of lake trout caught in gill nets in management area 5-9. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1			0	0	0	0	0	0	0	0	0	0	0	0	0	0
2			45	0	23	12	46	0	0	0	0	42	0	0	0	0
3			89	0	0	270	69	0	137	138	41	84	0	0	0	49
4	N	N	1,873	0	46	761	485	439	228	600	2,477	1,704	171	78	91	97
5	O	O	669	0	184	111	450	659	319	92	344	2,125	1,709	704	547	536
6			45	0	620	135	46	0	410	261	0	189	1,025	626	456	1,023
7			89	2,047	253	184	92	220	91	31	14	105	49	1,017	319	97
8	D	D	0	0	23	37	127	0	46	0	0	0	0	0	137	49
9	A	A	0	0	0	0	12	0	0	0	0	0	24	0	46	97
10	T	T	0	0	0	0	23	0	0	31	0	0	0	0	0	0
11	A	A	0	0	0	0	0	0	0	15	41	0	0	0	0	0
12			0	0	0	0	12	0	0	0	0	0	0	0	0	0
13			0	0	0	0	0	0	0	0	0	0	0	0	0	49
14			0	0	0	0	0	0	0	0	0	0	0	0	0	0
15			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2,809	2,047	1,149	1,510	1,363	1,318	1,229	1,169	2,917	4,249	2,978	2,426	1,597	1,997
Mean Age	--	--	4.30	7.00	5.94	4.52	5.07	5.00	5.19	4.74	4.22	4.62	5.35	6.06	6.00	5.98

Table 5-9.10. CPUE (number/km) for lake trout caught in gill nets in management area 5-9. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1																
2																
3																
4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6																
7																
8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
9	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
11	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
12																
13																
14																
15																
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	0	0	73	149	67	148	118	31	214	152	290	245	134	35	54	72
Trips	0	0	2	5	2	5	4	1	7	5	8	7	4	1	2	2

Table 6-1.5. The estimated number of lake trout caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	21	0	73	0	0	0	0	0	0	0	0	0
2	0	1,002	29	0	145	102	293	0	158	299	0	482	0	290	0	368
3	414	2,096	2,654	0	869	614	733	999	2,368	7,487	1,994	1,929	307	1,016	2,086	4,043
4	1,655	2,461	5,965	5,238	1,573	4,453	1,795	2,247	5,367	9,283	6,267	4,824	614	2,178	3,546	10,200
5	1,138	1,321	1,341	4,490	1,946	614	1,685	1,747	894	599	5,697	3,377	2,763	726	834	919
6	931	182	571	0	145	665	256	999	1,052	299	0	1,447	2,456	1,016	209	0
7	0	46	86	0	83	0	147	0	368	299	0	482	307	1,597	626	368
8	103	0	0	0	21	0	0	0	0	0	0	0	1,535	145	1,043	0
9	0	46	57	0	21	0	0	0	105	0	0	482	0	1,016	417	92
10	0	0	29	0	0	0	37	0	0	599	570	0	0	0	209	0
11	0	0	0	0	0	0	0	0	0	0	570	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	184
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4,240	7,154	10,732	9,728	4,823	6,449	5,019	5,991	10,313	18,866	15,097	13,024	7,981	7,985	8,970	16,265
Mean Age	4.71	3.71	4.05	4.46	4.30	4.17	4.26	4.46	4.19	3.87	4.74	4.56	5.81	5.45	4.95	4.01

Table 6-1.6. CPUE (number/km) for lake trout caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0			0.0												
2	0.0			0.0												
3	0.2			0.0												
4	1.0	N	N	24.1	N	N	N	N	N	N	N	N	N	N	N	N
5	0.7	O	O	20.7	O	O	O	O	O	O	O	O	O	O	O	O
6	0.6			0.0												
7	0.0			0.0												
8	0.1	D	D	0.0	D	D	D	D	D	D	D	D	D	D	D	D
9	0.0	A	A	0.0	A	A	A	A	A	A	A	A	A	A	A	A
10	0.0	T	T	0.0	T	T	T	T	T	T	T	T	T	T	T	T
11	0.0	A	A	0.0	A	A	A	A	A	A	A	A	A	A	A	A
12	0.0			0.0												
13	0.0			0.0												
14	0.0			0.0												
15	0.0			0.0												
Total	2.6	0.0	0.0	44.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	41	263	539	312	320	135	138	143	263	146	150	57	36	79	69	334
Trips	1	9	17	10	11	5	5	5	9	5	5	2	1	3	2	9

Table 4-1.1. The estimated number of lake whitefish caught in gill nets in management area 4-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0			0	0		0
2	0	0	0	0	0	0	0	0	0	0			0	0		0
3	455	498	430	0	306	0	0	0	0	0			0	0		0
4	6,369	8,958	7,739	827	2,602	656	0	652	331	0	N	N	0	0	N	0
5	11,464	16,424	20,638	13,855	9,950	3,282	567	3,914	2,651	1,273	O	O	269	690	O	290
6	4,276	12,940	21,068	23,368	14,543	13,786	7,366	13,698	16,238	5,091			2,692	3,448		290
7	2,457	6,968	7,023	18,818	17,299	20,351	15,298	16,633	17,564	15,273			10,499	4,138		3,485
8	728	995	1,290	4,343	10,716	15,099	19,831	14,676	13,919	15,273	D	D	12,114	9,654	D	10,163
9	182	498	287	620	3,368	8,534	9,066	10,762	9,611	11,455	A	A	7,807	8,965	A	8,131
10	455	0	0	207	1,837	3,282	3,400	2,935	4,308	6,364	T	T	4,845	2,758	T	4,937
11	364	1,493	143	0	153	656	0	1,305	1,326	6,364	A	A	1,346	2,758	A	1,162
12	364	0	0	0	153	0	0	0	331	1,273			808	0		0
13	182	0	0	0	153	0	567	0	0	0			269	0		290
14	0	498	0	0	153	0	0	0	0	0			0	0		0
15	0	0	0	0	0	0	0	0	0	0			0	0		0
Total	27,296	49,272	58,616	62,038	61,234	65,648	56,094	64,574	66,279	62,366	0	0	40,648	32,411	0	28,748
Mean Age	5.49	5.72	5.55	6.24	6.72	7.34	7.77	7.41	7.46	8.31	--	--	8.23	8.30	--	8.63

Table 4-1.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 4-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
3	0.9	0.9	0.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
4	12.6	15.7	15.8	1.8	4.1	0.9	0.0	1.0	0.5	0.0	N	N	0.0	0.0	N	0.0
5	22.8	28.7	42.3	30.5	15.7	4.7	0.9	6.0	4.3	2.3	O	O	0.4	1.7	O	0.7
6	8.5	22.6	43.1	51.5	23.0	19.8	12.1	21.1	26.5	9.2			4.0	8.5		0.7
7	4.9	12.2	14.4	41.5	27.4	29.2	25.1	25.7	28.7	27.7			15.4	10.2		8.6
8	1.4	1.7	2.6	9.6	17.0	21.6	32.5	22.6	22.7	27.7	D	D	17.8	23.7	D	25.1
9	0.4	0.9	0.6	1.4	5.3	12.2	14.9	16.6	15.7	20.7	A	A	11.5	22.0	A	20.1
10	0.9	0.0	0.0	0.5	2.9	4.7	5.6	4.5	7.0	11.5	T	T	7.1	6.8	T	12.2
11	0.7	2.6	0.3	0.0	0.2	0.9	0.0	2.0	2.2	11.5	A	A	2.0	6.8	A	2.9
12	0.7	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.5	2.3			1.2	0.0		0.0
13	0.4	0.0	0.0	0.0	0.2	0.0	0.9	0.0	0.0	0.0			0.4	0.0		0.7
14	0.0	0.9	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total	54.2	86.2	120.0	136.8	96.9	94.1	91.9	99.6	108.2	112.9	0.0	0.0	59.7	79.7	0.0	70.9
Size	300	100	410	300	400	100	100	200	200	50	0	0	151	50	0	99
Trips	6	2	8	6	8	2	2	4	4	1	0	0	3	1	0	2

Table 4-2.1. The estimated number of lake whitefish caught in gill nets in management area 4-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	175	0	239	0	0	0	0	0	0	0	0	0	0	0	0	0
3	2,369	898	239	0	375	0	0	0	0	0	0	0	0	0	0	0
4	9,871	26,455	14,346	2,236	2,998	0	0	463	0	0	0	1,003	0	0	0	0
5	9,740	26,536	25,704	41,928	13,116	15,128	5,378	6,025	2,851	4,242	1,411	5,015	2,842	0	612	407
6	2,808	15,922	30,366	36,897	36,725	32,777	15,059	26,416	21,990	42,420	10,586	17,051	13,263	4,244	6,124	4,474
7	965	6,614	15,661	21,803	37,475	57,991	34,421	17,611	23,212	33,936	28,230	32,096	32,685	18,036	20,822	10,981
8	483	2,205	5,021	5,777	14,990	12,607	37,648	12,976	22,398	21,210	38,110	23,069	38,843	33,951	36,744	26,435
9	132	735	2,391	1,304	6,371	5,043	11,832	17,147	20,362	4,242	14,821	11,535	18,474	26,524	17,760	24,401
10	175	653	956	559	375	2,521	2,151	8,805	8,959	0	9,175	4,514	9,000	14,853	8,736	8,134
11	0	327	359	373	0	0	1,076	2,781	1,222	0	2,117	3,511	2,368	5,305	1,225	4,474
12	88	245	239	186	0	0	0	0	407	0	706	1,003	0	1,061	0	407
13	0	0	0	186	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	120	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	26,806	80,589	95,642	111,249	112,424	126,067	107,566	92,224	101,401	106,051	105,156	98,797	117,475	103,974	90,023	79,711
Mean Age	4.74	5.22	5.84	5.98	6.60	6.74	7.43	7.49	7.68	6.80	7.89	7.49	7.79	8.48	8.00	8.43

Table 4-2.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 4-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	3.6	0.7	0.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	14.9	22.0	16.1	2.6	3.6	0.0	0.0	0.6	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
5	14.7	22.1	28.8	48.4	15.7	16.7	6.6	7.6	2.6	3.1	1.1	3.8	1.8	0.0	0.5	0.3
6	4.2	13.2	34.0	42.6	43.9	36.1	18.5	33.2	19.9	31.1	8.2	13.0	8.5	2.7	5.1	3.8
7	1.5	5.5	17.5	25.2	44.8	63.9	42.2	22.1	21.0	24.9	21.8	24.5	21.0	11.4	17.5	9.3
8	0.7	1.8	5.6	6.7	17.9	13.9	46.2	16.3	20.2	15.5	29.4	17.6	24.9	21.4	30.8	22.4
9	0.2	0.6	2.7	1.5	7.6	5.6	14.5	21.5	18.4	3.1	11.4	8.8	11.9	16.7	14.9	20.7
10	0.3	0.5	1.1	0.6	0.4	2.8	2.6	11.1	8.1	0.0	7.1	3.5	5.8	9.4	5.7	6.9
11	0.0	0.3	0.4	0.4	0.0	0.0	1.3	3.5	1.1	0.0	1.6	2.7	1.5	3.3	1.0	3.8
12	0.1	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.4	0.0	0.5	0.8	0.0	0.7	0.0	0.3
13	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	40.5	67.0	107.1	128.4	134.3	138.9	132.0	115.9	91.6	77.7	81.2	75.5	75.4	65.5	75.6	67.6
Size	613	989	802	601	300	50	100	200	250	51	150	200	248	100	150	199
Trips	12	20	16	12	6	1	2	4	5	1	3	4	5	2	3	4

Table 4-2.13. The estimated number of lake whitefish caught in trap nets in management area 4-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	785	302	402	506	1,044	631	0	0	256	328	0	904	0	0	0	0
3	5,323	3,654	3,149	2,783	6,658	5,363	2,268	2,404	2,560	4,917	0	4,068	0	295	0	653
4	7,267	4,890	13,266	5,483	9,791	7,571	7,055	10,578	5,632	8,524	3,862	8,137	1,482	886	0	3,484
5	2,985	2,335	10,653	23,196	16,187	10,725	12,850	17,791	15,616	10,818	22,205	13,109	8,894	9,744	2,633	4,137
6	1,007	797	8,576	12,568	15,143	13,880	17,133	19,233	19,200	14,752	26,067	17,177	16,305	7,087	9,214	4,790
7	239	412	4,221	5,989	10,704	17,980	16,377	17,150	18,944	19,014	29,928	15,369	20,752	11,811	17,550	9,362
8	68	110	1,675	1,771	3,916	7,886	9,574	16,989	16,384	17,047	29,928	20,794	19,764	14,468	17,989	13,499
9	136	27	938	506	392	2,208	4,031	10,097	15,360	10,491	11,585	9,041	15,317	11,811	8,775	14,587
10	17	82	402	84	131	0	756	4,488	5,632	4,262	7,723	3,616	3,953	8,858	7,459	9,580
11	17	27	268	0	0	0	252	1,923	2,048	983	0	1,356	988	2,067	1,316	3,701
12	0	27	67	84	0	0	0	0	0	0	965	0	494	1,181	0	435
13	0	0	67	0	0	0	0	0	0	0	0	0	0	295	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	17,844	12,665	43,682	52,970	63,966	66,243	70,296	100,654	101,632	91,138	132,264	93,572	87,949	68,503	64,936	64,228
Mean Age	4.00	4.19	5.22	5.38	5.38	5.94	6.26	6.62	6.93	6.69	6.99	6.64	7.34	7.73	7.75	7.97

Table 4-2.14. CPUE (number/net lift) for lake whitefish caught in trap nets in management area 4-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	5.6	3.8	2.9	4.5	7.2	3.4	0.0	0.0	1.9	2.6	0.0	6.9	0.0	0.0	0.0	0.0
3	38.0	45.7	22.8	24.6	45.6	28.5	13.3	16.2	19.0	38.7	0.0	31.1	0.0	2.0	0.0	3.9
4	51.9	61.1	96.1	48.5	67.1	40.3	41.5	71.5	41.7	67.1	27.8	62.1	8.9	6.0	0.0	20.9
5	21.3	29.2	77.2	205.3	110.9	57.0	75.6	120.2	115.7	85.2	159.7	100.1	53.3	65.8	17.6	24.8
6	7.2	10.0	62.1	111.2	103.7	73.8	100.8	130.0	142.2	116.2	187.5	131.1	97.6	47.9	61.4	28.7
7	1.7	5.2	30.6	53.0	73.3	95.6	96.3	115.9	140.3	149.7	215.3	117.3	124.3	79.8	117.0	56.1
8	0.5	1.4	12.1	15.7	26.8	41.9	56.3	114.8	121.4	134.2	215.3	158.7	118.3	97.8	119.9	80.8
9	1.0	0.3	6.8	4.5	2.7	11.7	23.7	68.2	113.8	82.6	83.3	69.0	91.7	79.8	58.5	87.3
10	0.1	1.0	2.9	0.7	0.9	0.0	4.4	30.3	41.7	33.6	55.6	27.6	23.7	59.9	49.7	57.4
11	0.1	0.3	1.9	0.0	0.0	0.0	1.5	13.0	15.2	7.7	0.0	10.4	5.9	14.0	8.8	22.2
12	0.0	0.3	0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	3.0	8.0	0.0	2.6
13	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	127.4	158.3	316.5	468.8	438.1	352.4	413.5	680.1	752.8	717.6	951.5	714.3	526.6	462.9	432.9	384.6
Size	1048	461	654	629	490	210	280	631	401	280	140	210	180	234	150	300
Trips	15	7	10	9	7	3	4	9	6	4	2	3	3	4	3	6

Table 4-3.1. The estimated number of lake whitefish caught in gill nets in management area 4-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	498	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	1,744	308	347	87	196	0	0	0	0	0	0	0	0	0	0	0
4	20,510	11,697	6,584	1,050	589	635	0	158	556	294	0	556	0	0	0	128
5	19,430	25,446	17,443	31,310	11,983	6,353	0	2,366	5,285	587	1,110	2,596	1,392	0	0	128
6	17,520	18,161	30,496	38,395	37,323	14,929	8,177	15,143	15,019	11,747	6,504	9,643	7,887	793	3,336	1,795
7	5,729	12,723	12,822	20,028	30,055	34,305	16,354	26,342	24,754	32,599	17,291	21,512	20,414	7,934	11,399	5,513
8	996	5,335	8,317	6,559	8,250	14,929	26,936	33,282	28,370	38,179	30,141	31,527	25,982	11,107	16,681	13,718
9	332	1,334	3,696	1,662	1,964	4,447	14,430	22,398	21,138	22,026	23,161	19,287	7,887	7,934	5,838	8,846
10	332	923	693	525	2,357	2,224	4,810	7,414	13,629	9,104	11,580	8,531	5,568	10,314	3,058	3,333
11	166	410	809	0	589	318	481	2,208	1,669	881	2,697	2,967	464	793	1,112	385
12	83	410	347	87	196	318	0	315	556	587	635	185	0	793	0	128
13	0	103	116	0	0	318	0	158	0	0	0	0	0	0	0	0
14	0	0	116	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	67,341	76,852	81,784	99,702	93,505	78,776	71,188	109,783	110,977	116,005	93,119	96,805	69,595	39,668	41,424	33,976
Mean Age	5.16	5.83	6.24	6.07	6.56	7.07	7.90	7.83	7.84	7.88	8.25	7.95	7.71	8.62	7.93	8.21

Table 4-3.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 4-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	1.7	0.3	0.4	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	19.8	11.2	7.3	1.1	0.6	0.8	0.0	0.1	0.5	0.2	0.0	0.4	0.0	0.0	0.0	0.3
5	18.8	24.3	19.3	32.8	12.5	8.0	0.0	1.7	4.5	0.3	0.8	1.8	1.5	0.0	0.0	0.3
6	16.9	17.3	33.8	40.2	38.9	18.7	11.4	10.7	12.7	6.6	4.9	6.5	8.5	1.5	3.7	3.9
7	5.5	12.1	14.2	21.0	31.3	43.1	22.7	18.7	20.9	18.3	12.9	14.6	22.0	14.6	12.5	11.9
8	1.0	5.1	9.2	6.9	8.6	18.7	37.4	23.6	23.9	21.4	22.5	21.3	28.0	20.4	18.3	29.6
9	0.3	1.3	4.1	1.7	2.0	5.6	20.0	15.9	17.8	12.4	17.3	13.1	8.5	14.6	6.4	19.1
10	0.3	0.9	0.8	0.5	2.5	2.8	6.7	5.3	11.5	5.1	8.6	5.8	6.0	18.9	3.4	7.2
11	0.2	0.4	0.9	0.0	0.6	0.4	0.7	1.6	1.4	0.5	2.0	2.0	0.5	1.5	1.2	0.8
12	0.1	0.4	0.4	0.1	0.2	0.4	0.0	0.2	0.5	0.3	0.5	0.1	0.0	1.5	0.0	0.3
13	0.0	0.1	0.1	0.0	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	65.0	73.3	90.6	104.3	97.5	98.9	98.9	77.8	93.6	65.2	69.5	65.5	75.1	72.8	45.4	73.4
Size	812	750	709	1144	477	250	150	700	449	401	598	523	150	50	150	268
Trips	16	15	14	23	9	5	3	14	9	8	12	11	3	1	3	6

Table 4-4.1. The estimated number of lake whitefish caught in gill nets in management area 4-4. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	2,468	577	0	0	0	0	0	0	0	0	0	0	0	0	0
3	1,809	7,280	961	410	1,938	0	0	0	0	0	0	0	0	0	0	0
4	51,686	25,541	11,343	4,097	5,168	0	1,775	0	0	3,609	2,909	0	0	0	0	1,269
5	76,366	109,813	76,322	42,197	35,851	1,708	1,775	1,973	20,879	3,609	0	1,438	0	729	1,726	8,246
6	105,957	51,451	66,422	111,432	172,473	14,687	41,718	12,822	27,839	7,219	17,453	23,009	20,003	9,474	6,328	20,298
7	35,534	36,522	30,471	55,306	148,895	72,410	119,829	63,122	34,799	61,360	52,359	37,389	40,007	40,813	21,800	32,985
8	18,219	10,858	19,417	20,074	51,677	44,402	135,807	104,547	48,718	93,845	87,264	64,712	36,006	39,355	40,268	45,671
9	4,781	3,208	6,633	4,097	10,658	7,514	47,044	71,999	125,276	79,408	66,903	80,530	17,603	32,796	32,789	32,985
10	2,843	1,851	2,403	1,639	3,230	342	7,989	12,822	48,718	32,485	52,359	46,017	8,801	20,406	20,709	11,418
11	1,680	494	577	410	323	683	888	3,945	0	0	5,818	15,818	1,600	5,830	10,355	3,806
12	775	864	96	0	323	0	0	0	0	0	0	8,628	0	2,915	1,726	634
13	388	0	384	0	323	0	888	0	0	3,609	0	0	0	2,186	1,726	0
14	0	0	0	410	0	0	0	0	0	0	0	0	0	0	1,151	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	300,039	250,348	215,606	240,070	430,859	141,745	357,713	271,229	306,230	285,146	285,063	277,540	124,020	154,505	138,636	157,313
Mean Age	5.76	5.56	6.00	6.28	6.58	7.32	7.59	8.05	8.23	8.22	8.32	8.60	7.68	8.33	8.63	7.79

Table 4-4.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 4-4. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	2.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	1.4	8.7	1.0	0.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	39.5	30.5	11.8	5.8	5.6	0.0	8.1	0.0	0.0	2.2	1.7	0.0	0.0	0.0	0.0	1.4
5	58.3	131.2	79.6	60.0	38.8	2.2	8.1	2.6	11.7	2.2	0.0	0.7	0.0	0.9	1.9	8.8
6	80.9	61.5	69.3	158.5	186.5	18.9	189.2	16.8	15.6	4.3	9.9	11.4	23.3	11.3	6.9	21.7
7	27.1	43.6	31.8	78.7	161.0	93.0	543.5	82.5	19.4	36.8	29.8	18.5	46.7	48.7	23.7	35.3
8	13.9	13.0	20.3	28.6	55.9	57.0	616.0	136.6	27.2	56.3	49.6	32.0	42.0	46.9	43.7	48.8
9	3.7	3.8	6.9	5.8	11.5	9.6	213.4	94.1	70.0	47.7	38.1	39.8	20.5	39.1	35.6	35.3
10	2.2	2.2	2.5	2.3	3.5	0.4	36.2	16.8	27.2	19.5	29.8	22.7	10.3	24.3	22.5	12.2
11	1.3	0.6	0.6	0.6	0.3	0.9	4.0	5.2	0.0	0.0	3.3	7.8	1.9	7.0	11.2	4.1
12	0.6	1.0	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	3.5	1.9	0.7
13	0.3	0.0	0.4	0.0	0.3	0.0	4.0	0.0	0.0	2.2	0.0	0.0	0.0	2.6	1.9	0.0
14	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	229.1	299.2	224.9	341.4	465.9	182.0	1,622.5	354.3	171.1	171.1	162.1	137.2	144.6	184.3	150.6	168.2
Size	2326	2032	4509	596	6417	4526	1207	3298	6457	7758	3925	4576	1888	2665	2168	1631
Trips	48	43	42	7	20	0	3	0	0	0	0	0	0	0	0	0

Table 4-5.1. The estimated number of lake whitefish caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	549	11,175	4,447	2,745	783	1,147	14,779	0	0	0	0	0	0	0	0	2,955
2	32,950	4,030	19,722	20,127	13,318	2,867	37,686	7,591	15,194	0	2,650	5,590	0	4,192	1,807	14,777
3	20,136	9,709	2,320	3,476	8,356	1,147	6,650	12,146	25,639	2,520	7,951	30,278	0	1,397	2,710	16,254
4	252,252	98,007	36,158	14,638	12,012	4,014	5,173	759	6,647	15,118	7,068	6,987	1,308	4,657	1,205	8,866
5	132,350	193,999	198,771	100,086	60,843	24,658	29,558	21,255	19,942	22,677	42,405	35,868	26,157	38,189	13,250	22,165
6	37,344	75,841	227,001	248,660	193,758	68,239	99,757	119,941	77,867	80,629	136,933	128,100	152,759	161,607	113,530	28,075
7	45,398	31,142	73,669	152,050	270,008	205,865	180,302	161,692	141,490	198,212	186,406	192,848	246,403	260,341	193,633	174,363
8	19,221	17,586	31,711	62,577	121,425	270,663	232,029	192,816	207,962	187,293	136,933	174,216	137,850	145,772	152,377	248,245
9	15,194	15,388	16,049	22,140	41,259	129,024	158,134	192,057	197,516	125,982	78,626	102,946	47,083	53,558	72,274	138,899
10	12,448	7,694	9,281	10,612	12,534	59,064	44,337	75,912	76,917	46,193	37,105	48,911	12,032	16,766	19,273	48,763
11	7,322	3,481	5,414	5,855	5,745	11,469	15,518	25,810	23,740	11,758	5,301	6,056	2,616	931	6,625	13,299
12	915	1,466	2,320	2,379	1,567	5,734	7,389	4,555	950	1,680	883	1,863	523	0	301	2,955
13	0	550	580	366	522	1,147	0	0	0	0	0	466	0	0	0	2,955
14	183	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	576,262	470,067	627,443	645,710	742,131	785,038	831,312	814,533	793,862	692,062	642,262	734,128	626,731	687,411	576,983	722,572
Mean Age	4.94	5.32	5.82	6.31	6.76	7.80	7.36	7.83	7.78	7.65	7.22	7.26	7.12	7.04	7.38	7.70

Table 4-5.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.2	5.9	1.7	1.1	0.3	0.4	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
2	13.1	2.1	7.4	8.1	5.2	1.0	11.9	2.2	3.8	0.0	0.8	1.6	0.0	1.1	0.5	3.7
3	8.0	5.1	0.9	1.4	3.3	0.4	2.1	3.5	6.4	0.7	2.5	8.6	0.0	0.4	0.7	4.0
4	100.6	51.8	13.5	5.9	4.7	1.3	1.6	0.2	1.7	4.1	2.2	2.0	0.5	1.2	0.3	2.2
5	52.8	102.6	74.4	40.2	23.7	8.3	9.4	6.1	5.0	6.1	13.3	10.1	9.8	10.1	3.4	5.5
6	14.9	40.1	85.0	99.9	75.4	22.9	31.6	34.6	19.4	21.6	43.0	36.2	57.1	42.8	29.1	7.0
7	18.1	16.5	27.6	61.1	105.0	69.2	57.0	46.6	35.3	53.2	58.5	54.5	92.1	69.0	49.6	43.2
8	7.7	9.3	11.9	25.1	47.2	91.0	73.4	55.5	51.9	50.3	43.0	49.3	51.6	38.6	39.0	61.6
9	6.1	8.1	6.0	8.9	16.0	43.4	50.0	55.3	49.3	33.8	24.7	29.1	17.6	14.2	18.5	34.5
10	5.0	4.1	3.5	4.3	4.9	19.9	14.0	21.9	19.2	12.4	11.6	13.8	4.5	4.4	4.9	12.1
11	2.9	1.8	2.0	2.4	2.2	3.9	4.9	7.4	5.9	3.2	1.7	1.7	1.0	0.2	1.7	3.3
12	0.4	0.8	0.9	1.0	0.6	1.9	2.3	1.3	0.2	0.5	0.3	0.5	0.2	0.0	0.1	0.7
13	0.0	0.3	0.2	0.1	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.7
14	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	229.9	248.5	235.0	259.4	288.7	263.9	263.0	234.6	198.3	185.8	201.5	207.6	234.4	182.2	147.7	179.2
Size	3201	2567	3252	3533	2848	1377	1228	1077	838	827	730	1582	2411	1481	1931	1376
Trips	68	55	69	74	59	28	26	22	18	17	15	32	49	30	40	30

Table 4-5.21. The estimated number of lake whitefish caught in trap nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	890	235	0	0	0	0	0	0	220	0	0	0	0	0
3	12,986	2,498	4,449	1,883	2,583	0	1,285	2,412	1,169	2,808	0	0	177	0	0	0
4	57,459	38,903	19,576	13,768	12,516	9,147	3,855	5,790	4,674	11,545	3,296	0	1,062	0	0	41
5	19,480	40,687	33,146	29,302	12,715	9,563	13,280	13,027	8,959	5,616	9,008	2,118	2,833	373	716	0
6	7,473	13,741	12,791	19,652	34,568	4,989	9,424	15,439	11,686	8,736	10,106	4,501	10,445	1,492	3,042	243
7	7,228	5,889	4,227	7,061	20,661	14,968	11,995	16,404	15,191	16,849	11,864	9,266	11,153	1,604	3,579	649
8	5,513	2,855	2,002	4,001	7,152	14,136	13,280	13,992	18,308	9,985	6,811	7,943	5,134	1,567	1,074	893
9	2,205	1,606	1,446	2,824	1,391	2,910	7,283	5,790	10,128	7,176	5,493	2,912	1,416	485	537	852
10	2,205	1,963	1,335	1,059	795	1,663	2,570	2,895	5,453	1,248	879	2,118	177	149	0	1,258
11	980	714	667	588	795	416	1,285	965	1,169	312	659	265	0	0	0	527
12	0	178	111	118	397	0	0	0	390	0	0	0	0	0	0	243
13	0	0	111	0	0	0	428	0	390	0	439	265	0	0	0	81
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	115,530	109,034	80,752	80,491	93,571	57,792	64,686	76,713	77,515	64,275	48,774	29,388	32,397	5,671	8,948	4,787
Mean Age	4.83	5.11	5.18	5.60	6.03	6.57	6.85	6.60	7.20	6.43	6.73	7.48	6.64	7.13	6.74	9.05

Table 4-5.22. CPUE (number/net lift) for lake whitefish caught in trap nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	7.1	2.3	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
3	46.1	12.5	35.5	18.8	19.7	0.0	11.3	17.3	9.6	18.2	0.0	0.0	2.0	0.0	0.0	0.0
4	203.8	195.2	156.1	137.1	95.4	133.7	34.0	41.6	38.6	74.8	30.0	0.0	12.3	0.0	0.0	0.9
5	69.1	204.1	264.2	291.8	96.9	139.7	117.0	93.5	74.0	36.4	82.1	14.9	32.7	13.3	13.0	0.0
6	26.5	68.9	102.0	195.7	263.6	72.9	83.0	110.8	96.5	56.6	92.1	31.6	120.5	53.3	55.1	5.3
7	25.6	29.5	33.7	70.3	157.5	218.7	105.7	117.8	125.4	109.1	108.2	65.1	128.7	57.3	64.8	14.3
8	19.6	14.3	16.0	39.8	54.5	206.6	117.0	100.4	151.2	64.7	62.1	55.8	59.2	56.0	19.4	19.6
9	7.8	8.1	11.5	28.1	10.6	42.5	64.1	41.6	83.6	46.5	50.1	20.5	16.3	17.3	9.7	18.7
10	7.8	9.8	10.6	10.5	6.1	24.3	22.6	20.8	45.0	8.1	8.0	14.9	2.0	5.3	0.0	27.6
11	3.5	3.6	5.3	5.9	6.1	6.1	11.3	6.9	9.6	2.0	6.0	1.9	0.0	0.0	0.0	11.6
12	0.0	0.9	0.9	1.2	3.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	5.3
13	0.0	0.0	0.9	0.0	0.0	0.0	3.8	0.0	3.2	0.0	4.0	1.9	0.0	0.0	0.0	1.8
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	409.7	547.0	643.8	801.7	713.4	844.6	569.8	550.7	640.1	416.3	444.6	206.5	373.8	202.6	161.9	105.1
Size	943	616	729	685	473	140	152	163	199	206	223	112	183	152	50	120
Trips	15	9	12	11	8	2	2	3	4	4	4	2	4	3	1	3

Table 4-7.1. The estimated number of lake whitefish caught in gill nets in management area 4-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0			0	0			0	0	0	0	0
2	0	0	0	0	139			0	0			0	0	0	0	0
3	1,572	325	0	25	0			0	0			0	0	0	0	0
4	16,473	4,321	4,209	279	0	N	N	0	0	N	N	0	0	0	0	0
5	26,656	15,984	21,958	1,853	2,772	O	O	0	0	O	O	0	55	0	0	0
6	14,526	10,269	12,992	2,335	13,585			1,385	3,365			1,582	165	188	362	845
7	4,343	6,412	6,282	787	12,753			4,570	3,365			2,532	936	1,128	414	845
8	1,498	1,859	2,623	152	4,297	D	D	11,771	3,365	D	D	2,848	441	1,128	569	0
9	599	651	732	25	693	A	A	7,201	13,460	A	A	2,848	771	564	259	0
10	150	93	305	0	554	T	T	1,662	6,730	T	T	949	165	564	103	0
11	300	46	0	0	0	A	A	0	0	A	A	633	55	188	103	0
12	0	0	0	0	0			138	0			0	0	0	0	0
13	0	0	0	0	0			0	0			0	0	0	0	0
14	0	0	0	0	0			0	0			0	0	0	0	0
15	0	0	0	0	0			0	0			0	0	0	0	0
Total	66,116	39,960	49,099	5,456	34,793	0	0	26,726	30,285	0	0	11,393	2,588	3,760	1,810	1,690
Mean Age	5.20	5.68	5.69	5.76	6.64	--	--	8.14	8.56	--	--	8.08	7.94	8.20	7.80	6.50

Table 4-7.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 4-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0			0.0	0.0			0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	1.6			0.0	0.0			0.0	0.0	0.0	0.0	0.0
3	3.1	0.7	0.0	0.9	0.0			0.0	0.0			0.0	0.0	0.0	0.0	0.0
4	32.4	9.6	6.0	9.6	0.0	N	N	0.0	0.0	N	N	0.0	0.0	0.0	0.0	0.0
5	52.4	35.7	31.1	63.9	31.5	O	O	0.0	0.0	O	O	0.0	0.7	0.0	0.0	0.0
6	28.5	22.9	18.4	80.5	154.2			14.6	9.6			10.4	2.1	1.8	5.3	77.0
7	8.5	14.3	8.9	27.1	144.7			48.2	9.6			16.7	11.7	11.0	6.0	77.0
8	2.9	4.1	3.7	5.3	48.8	D	D	124.2	9.6	D	D	18.7	5.5	11.0	8.3	0.0
9	1.2	1.5	1.0	0.9	7.9	A	A	76.0	38.6	A	A	18.7	9.6	5.5	3.8	0.0
10	0.3	0.2	0.4	0.0	6.3	T	T	17.5	19.3	T	T	6.2	2.1	5.5	1.5	0.0
11	0.6	0.1	0.0	0.0	0.0	A	A	0.0	0.0	A	A	4.2	0.7	1.8	1.5	0.0
12	0.0	0.0	0.0	0.0	0.0			1.5	0.0			0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0			0.0	0.0			0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0			0.0	0.0			0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0			0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total	129.9	89.1	69.4	188.2	394.8	0.0	0.0	282.0	86.8	0.0	0.0	75.0	32.3	36.6	26.4	154.1
Size	885	863	809	216	780	0	0	426	706	0	0	258	113	116	35	2
Trips	19	17	17	5	2	0	0	0	0	0	0	0	0	0	0	0

Table 5-1.1. The estimated number of lake whitefish caught in gill nets in management area 5-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0	0	0	0	0	0	0	0	0	0	0	0	0
2				843	0	0	0	0	324	0	0	0	0	0	0	0
3				2,108	2,504	309	0	38	1,376	0	0	0	76	0	0	66
4	N	N	N	843	3,756	2,471	1,548	607	324	640	0	264	681	162	1,980	665
5	O	O	O	18,126	9,859	8,339	12,384	3,034	1,538	853	385	1,321	2,195	772	5,623	4,719
6				15,175	10,798	1,544	6,966	5,158	5,180	2,347	256	1,057	4,693	2,761	3,960	7,511
7				6,745	3,443	9,574	3,096	5,310	5,827	4,338	1,282	3,170	4,617	3,574	2,614	5,916
8	D	D	D	843	939	5,559	9,288	3,413	6,556	4,623	2,308	6,075	3,785	4,345	3,722	3,855
9	A	A	A	843	156	1,235	2,322	3,300	5,261	4,907	2,821	6,339	4,239	4,670	4,514	3,323
10	T	T	T	0	0	927	1,548	1,479	4,047	2,774	2,308	3,962	4,087	5,848	2,693	4,586
11	A	A	A	0	0	309	0	417	1,214	711	2,693	2,377	1,892	6,091	2,534	2,127
12				0	0	0	0	114	81	142	898	1,321	1,287	3,492	1,742	2,592
13				0	0	309	0	0	0	0	0	0	151	1,381	950	399
14				0	0	0	0	38	0	0	0	0	76	487	238	332
15				0	0	0	0	38	0	0	0	0	0	81	0	0
Total	0	0	0	45,526	31,456	30,575	37,151	22,946	31,726	21,335	12,952	25,885	27,779	33,665	30,570	36,092
Mean Age	--	--	--	5.59	5.39	6.58	6.52	7.18	7.57	7.95	9.25	8.63	8.03	9.39	7.85	7.87

Table 5-1.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 5-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2				1.9	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3				4.7	6.1	0.4	0.0	0.1	3.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
4	N	N	N	1.9	9.2	3.5	2.8	1.4	0.7	1.4	0.0	0.5	1.2	0.2	2.1	0.6
5	O	O	O	40.8	24.1	11.8	22.2	6.8	3.4	1.9	1.1	2.5	3.8	0.9	6.0	4.1
6				34.2	26.4	2.2	12.5	11.6	11.4	5.3	0.7	2.0	8.1	3.2	4.2	6.5
7				15.2	8.4	13.6	5.6	12.0	12.9	9.8	3.6	6.0	7.9	4.1	2.8	5.1
8	D	D	D	1.9	2.3	7.9	16.7	7.7	14.5	10.4	6.5	11.5	6.5	5.0	4.0	3.3
9	A	A	A	1.9	0.4	1.8	4.2	7.4	11.6	11.1	8.0	12.0	7.3	5.4	4.8	2.9
10	T	T	T	0.0	0.0	1.3	2.8	3.3	8.9	6.3	6.5	7.5	7.0	6.8	2.9	4.0
11	A	A	A	0.0	0.0	0.4	0.0	0.9	2.7	1.6	7.6	4.5	3.3	7.0	2.7	1.8
12				0.0	0.0	0.0	0.0	0.3	0.2	0.3	2.5	2.5	2.2	4.0	1.9	2.2
13				0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.6	1.0	0.3
14				0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.6	0.3	0.3
15				0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total	0.0	0.0	0.0	102.6	76.8	43.4	66.7	51.7	70.0	48.1	36.7	49.2	47.8	38.9	32.7	31.1
Size	0	0	0	108	201	100	50	607	396	300	101	100	372	840	388	548
Trips	0	0	0	2	4	2	1	12	9	6	2	2	9	19	8	11

Table 5-2.1. The estimated number of lake whitefish caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0		0	0	0		0	0	0			
2	453	324	24	204	0		0	0	0		0	0	0			
3	2,444	8,583	1,119	5,019	3,708		0	0	1,247		0	76	0			
4	1,584	4,513	5,231	2,448	4,470	N	894	280	1,871	N	535	76	44	N	N	N
5	407	619	3,212	5,876	2,235	O	2,682	1,401	2,494	O	411	5,300	622	O	O	O
6	498	88	681	2,163	3,556		1,753	2,615	3,741		329	1,136	2,134			
7	45	236	97	286	2,489		2,407	1,121	2,494		1,275	1,438	489			
8	91	88	49	82	508	D	4,435	747	624	D	1,953	2,347	934	D	D	D
9	136	0	122	41	102	A	1,891	2,895	0	A	2,837	2,953	2,267	A	A	A
10	272	59	24	82	51	T	481	934	0	T	1,748	1,590	1,156	T	T	T
11	91	118	24	41	0	A	69	187	0	A	1,090	681	845	A	A	A
12	91	59	0	0	0		103	280	0		288	833	356			
13	45	29	0	41	51		34	0	0		41	151	89			
14	0	0	24	0	51		69	0	0		0	0	44			
15	45	29	0	41	0		0	0	0		21	0	0			
Total	6,200	14,747	10,609	16,322	17,220	0	14,818	10,458	12,471	0	10,527	16,580	8,980	0	0	0
Mean Age	4.50	3.65	4.48	4.48	4.98	--	7.09	7.50	5.50	--	8.55	7.52	8.27	--	--	--

Table 5-2.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0			
2	6.1	2.4	0.2	0.9	0.0		0.0	0.0	0.0		0.0	0.0	0.0			
3	32.8	64.5	7.6	22.8	18.0		0.0	0.0	3.1		0.0	0.2	0.0			
4	21.3	33.9	35.5	11.1	21.7	N	2.8	0.9	4.6	N	2.0	0.2	0.2	N	N	N
5	5.5	4.7	21.8	26.7	10.8	O	8.3	4.4	6.2	O	1.6	16.3	3.0	O	O	O
6	6.7	0.7	4.6	9.8	17.3		5.4	8.2	9.3		1.2	3.5	10.3			
7	0.6	1.8	0.7	1.3	12.1		7.4	3.5	6.2		4.8	4.4	2.4			
8	1.2	0.7	0.3	0.4	2.5	D	13.7	2.4	1.5	D	7.4	7.2	4.5	D	D	D
9	1.8	0.0	0.8	0.2	0.5	A	5.8	9.1	0.0	A	10.8	9.1	10.9	A	A	A
10	3.6	0.4	0.2	0.4	0.2	T	1.5	2.9	0.0	T	6.6	4.9	5.6	T	T	T
11	1.2	0.9	0.2	0.2	0.0	A	0.2	0.6	0.0	A	4.1	2.1	4.1	A	A	A
12	1.2	0.4	0.0	0.0	0.0		0.3	0.9	0.0		1.1	2.6	1.7			
13	0.6	0.2	0.0	0.2	0.2		0.1	0.0	0.0		0.2	0.5	0.4			
14	0.0	0.0	0.2	0.0	0.2		0.2	0.0	0.0		0.0	0.0	0.2			
15	0.6	0.2	0.0	0.2	0.0		0.0	0.0	0.0		0.1	0.0	0.0			
Total	83.3	110.9	72.0	74.2	83.6	0.0	45.7	32.9	30.9	0.0	39.9	51.1	43.4	0.0	0.0	0.0
Size	138	502	437	400	339	0	436	113	20	0	517	220	202	0	0	0
Trips	5	17	14	13	11	0	9	3	1	0	9	4	4	0	0	0

Table 5-3.1. The estimated number of lake whitefish caught in gill nets in management area 5-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	66	155	0	0	0	0	0	0	0	0	0	0	0	0
3	16,443	31,895	66	310	0	0	0	0	0	0	0	0	0	0	0	0
4	0	3,189	4,599	1,552	1,050	1,625	1,188	90	0	0	0	0	0	0	0	0
5	0	0	4,796	13,348	5,774	4,501	6,890	5,659	2,392	0	2,253	3,016	0	1,512	608	503
6	0	0	3,285	6,829	22,045	5,626	6,890	4,312	10,367	2,996	1,126	8,746	4,939	7,558	5,267	1,174
7	0	0	920	1,086	4,724	20,005	10,216	2,874	2,791	5,136	6,195	2,111	4,067	13,605	7,698	4,863
8	0	0	460	310	1,470	3,626	18,293	3,503	2,791	2,996	6,758	3,619	3,196	2,375	5,369	4,192
9	0	0	394	155	525	875	1,901	5,030	3,987	4,280	5,632	3,920	4,067	1,080	2,735	4,612
10	0	0	329	155	315	250	713	898	5,582	2,568	3,942	3,619	2,324	648	1,418	1,845
11	0	0	197	0	0	125	0	0	797	856	563	905	581	0	912	671
12	0	0	66	155	105	125	0	90	0	428	1,690	1,809	291	216	608	419
13	0	0	0	0	0	0	0	90	0	0	0	302	291	216	101	0
14	0	0	66	0	105	0	0	0	0	0	0	0	0	0	101	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	216	0	0
Total	16,443	35,084	15,243	24,058	36,112	36,759	46,089	22,546	28,707	19,262	28,160	28,046	19,756	27,426	24,817	18,279
Mean Age	3.00	3.09	5.46	5.41	6.11	6.67	7.00	7.06	7.54	8.13	8.24	7.78	7.96	7.00	7.67	8.18

Table 5-3.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 5-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	343.5	340.4	0.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	34.0	17.9	4.0	2.5	2.6	1.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	18.6	34.8	13.6	7.2	6.8	12.4	3.8	0.0	4.2	4.6	0.0	3.4	1.1	1.5
6	0.0	0.0	12.8	17.8	51.9	9.0	6.8	9.5	16.3	5.6	2.1	13.3	10.1	17.0	9.2	3.5
7	0.0	0.0	3.6	2.8	11.1	32.1	10.1	6.3	4.4	9.6	11.7	3.2	8.3	30.7	13.4	14.5
8	0.0	0.0	1.8	0.8	3.5	5.8	18.0	7.7	4.4	5.6	12.7	5.5	6.5	5.4	9.3	12.5
9	0.0	0.0	1.5	0.4	1.2	1.4	1.9	11.0	6.3	8.0	10.6	6.0	8.3	2.4	4.8	13.7
10	0.0	0.0	1.3	0.4	0.7	0.4	0.7	2.0	8.8	4.8	7.4	5.5	4.7	1.5	2.5	5.5
11	0.0	0.0	0.8	0.0	0.0	0.2	0.0	0.0	1.3	1.6	1.1	1.4	1.2	0.0	1.6	2.0
12	0.0	0.0	0.3	0.4	0.2	0.2	0.0	0.2	0.0	0.8	3.2	2.8	0.6	0.5	1.1	1.2
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.5	0.6	0.5	0.2	0.0
14	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Total	343.5	374.4	59.2	62.8	85.0	58.9	45.4	49.5	45.1	36.1	53.0	42.7	40.3	61.8	43.2	54.4
Size	2	11	232	155	736	834	1205	523	327	759	766	502	349	494	433	223
Trips	0	0	4	3	3	0	0	1	0	0	0	0	0	0	1	3

Table 5-4.1. The estimated number of lake whitefish caught in gill nets in management area 5-4. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0		0	0	0	0	0	0	0	0					0
2		0		0	0	0	0	0	0	0	0					0
3		0		0	0	0	0	0	3	11	0					0
4	N	4,773	N	0	0	478	222	0	9	886	418	N	N	N	N	0
5	O	1,507	O	753	730	1,004	1,554	0	15	246	1,784	O	O	O	O	65
6		0		1,923	2,555	1,577	370	0	18	64	276					324
7		0		1,589	913	860	814	0	27	299	134					1,489
8	D	0	D	84	183	1,386	1,110	0	9	278	126	D	D	D	D	648
9	A	0	A	0	183	621	444	0	37	128	118	A	A	A	A	453
10	T	0	T	0	0	239	370	0	24	235	142	T	T	T	T	0
11	A	0	A	0	0	0	370	0	12	171	87	A	A	A	A	130
12		0		0	0	48	0	2,055	6	53	24					65
13		0		0	0	0	0	0	3	0	8					65
14		0		0	0	48	0	0	0	0	0					0
15		0		0	0	0	0	0	0	0	0					0
Total	0	6,280	0	4,348	4,563	6,262	5,253	2,055	165	2,370	3,117	0	0	0	0	3,238
Mean Age	--	4.24	--	6.23	6.24	6.82	7.08	12.00	8.00	6.55	5.78	--	--	--	--	7.72

Table 5-4.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 5-4. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
2		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
3		0.0		0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0					0.0
4	N	32.1	N	0.0	0.0	4.9	2.7	0.0	1.0	17.7	6.1	N	N	N	N	0.0
5	O	10.2	O	9.7	14.1	10.4	18.7	0.0	1.6	4.9	25.9	O	O	O	O	1.2
6		0.0		24.7	49.3	16.3	4.4	0.0	1.9	1.3	4.0					5.8
7		0.0		20.4	17.6	8.9	9.8	0.0	2.9	6.0	1.9					26.9
8	D	0.0	D	1.1	3.5	14.3	13.3	0.0	1.0	5.5	1.8	D	D	D	D	11.7
9	A	0.0	A	0.0	3.5	6.4	5.3	0.0	3.8	2.6	1.7	A	A	A	A	8.2
10	T	0.0	T	0.0	0.0	2.5	4.4	0.0	2.6	4.7	2.1	T	T	T	T	0.0
11	A	0.0	A	0.0	0.0	0.0	4.4	0.0	1.3	3.4	1.3	A	A	A	A	2.3
12		0.0		0.0	0.0	0.5	0.0	41.8	0.6	1.1	0.3					1.2
13		0.0		0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1					1.2
14		0.0		0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0					0.0
15		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
Total	0.0	42.3	0.0	55.8	88.0	64.8	63.1	41.8	17.3	47.3	45.2	0.0	0.0	0.0	0.0	58.4
Size	0	25	0	52	25	131	71	1	54	223	398	0	0	0	0	50
Trips	0	1	0	2	1	3	2	0	2	5	9	0	0	0	0	1

Table 5-5.1. The estimated number of lake whitefish caught in gill nets in management area 5-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0		0	0	0	0	0	0	0	0					
2		0		0	0	0	0	88	0	0	0					
3		0		0	71	0	17	44	223	13	0					
4	N	4,638	N	153	964	725	198	220	497	3,172	788	N	N	N	N	N
5	O	3,289	O	766	1,856	1,836	3,036	1,320	1,114	1,093	4,357	O	O	O	O	O
6		337		4,292	3,319	1,836	2,079	1,936	1,337	661	649					
7		0		2,146	1,677	2,416	1,007	1,012	960	1,039	278					
8	D	84	D	307	571	1,981	594	836	223	945	371	D	D	D	D	D
9	A	0	A	0	36	242	578	836	514	432	324	A	A	A	A	A
10	T	0	T	0	71	97	132	880	377	553	232	T	T	T	T	T
11	A	0	A	0	0	0	50	264	223	297	139	A	A	A	A	A
12		0		0	0	0	0	88	34	175	139					
13		0		0	0	0	0	0	17	81	0					
14		0		0	0	0	0	0	17	13	0					
15		0		0	0	0	0	0	17	0	0					
Total	0	8,349	0	7,664	8,565	9,132	7,690	7,524	5,554	8,477	7,277	0	0	0	0	0
Mean Age	--	4.52	--	6.22	5.91	6.46	6.16	7.11	6.61	6.26	5.80	--	--	--	--	--

Table 5-5.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 5-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
2		0.0		0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0					
3		0.0		0.0	0.8	0.0	0.1	0.3	2.3	0.1	0.0					
4	N	22.7	N	1.1	10.2	4.5	1.6	1.5	5.0	18.4	7.9	N	N	N	N	N
5	O	16.1	O	5.3	19.7	11.3	25.1	9.1	11.3	6.3	43.4	O	O	O	O	O
6		1.7		29.6	35.2	11.3	17.2	13.3	13.5	3.8	6.5					
7		0.0		14.8	17.8	14.9	8.3	6.9	9.7	6.0	2.8					
8	D	0.4	D	2.1	6.1	12.2	4.9	5.7	2.3	5.5	3.7	D	D	D	D	D
9	A	0.0	A	0.0	0.4	1.5	4.8	5.7	5.2	2.5	3.2	A	A	A	A	A
10	T	0.0	T	0.0	0.8	0.6	1.1	6.0	3.8	3.2	2.3	T	T	T	T	T
11	A	0.0	A	0.0	0.0	0.0	0.4	1.8	2.3	1.7	1.4	A	A	A	A	A
12		0.0		0.0	0.0	0.0	0.0	0.6	0.3	1.0	1.4					
13		0.0		0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.0					
14		0.0		0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0					
15		0.0		0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0					
Total	0.0	40.9	0.0	52.8	90.9	56.3	63.5	51.6	56.2	49.2	72.6	0.0	0.0	0.0	0.0	0.0
Size	0	99	0	50	241	189	492	171	325	630	315	0	0	0	0	0
Trips	0	3	0	2	8	4	11	5	8	13	7	0	0	0	0	0

Table 5-6.1. The estimated number of lake whitefish caught in gill nets in management area 5-6. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2		0	73	21,366	61	109	0	0	0	0	0	0	0	0	0	0
3		240	146	1,187	307	109	0	0	0	0	346	0	0	0	0	0
4	N	0	4,540	1,187	920	1,254	2,324	980	537	1,141	691	102	99	0	0	63
5	O	0	3,148	8,309	8,522	1,799	7,138	10,943	2,686	380	5,874	1,434	593	840	312	380
6		0	1,025	5,935	17,167	2,780	2,905	7,350	5,194	1,522	2,419	2,150	5,432	2,520	1,771	2,534
7		0	146	3,561	2,085	7,741	3,735	3,103	716	4,946	2,073	307	1,975	5,039	1,354	3,800
8	D	0	73	1,187	1,226	981	7,221	1,960	1,075	3,044	3,801	614	691	420	764	1,203
9	A	0	0	0	61	273	332	6,043	716	1,332	346	819	395	0	278	507
10	T	0	0	0	61	0	332	653	1,433	1,902	346	410	395	420	104	190
11	A	0	0	0	0	0	83	327	0	761	0	614	395	210	208	127
12		0	0	0	0	0	0	163	0	0	1,037	512	99	0	0	0
13		0	0	0	0	0	0	163	0	0	0	102	99	0	0	0
14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	240	9,152	42,732	30,409	15,046	24,070	31,686	12,357	15,028	16,932	7,065	10,172	9,449	4,791	8,804
Mean Age	--	3.00	4.62	3.81	5.78	6.36	6.38	6.59	6.57	7.58	6.59	7.54	6.84	6.82	7.01	6.98

Table 5-6.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 5-6. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2		0.0	0.3	63.3	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3		143.6	0.6	3.5	0.7	0.3	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
4	N	0.0	17.5	3.5	2.1	3.3	4.1	2.3	1.8	2.4	1.2	0.3	0.3	0.0	0.0	0.3
5	O	0.0	12.1	24.6	19.5	4.7	12.5	26.1	9.1	0.8	9.9	4.3	1.8	3.4	1.2	1.7
6		0.0	3.9	17.6	39.3	7.3	5.1	17.5	17.5	3.2	4.1	6.4	16.7	10.2	6.9	11.0
7		0.0	0.6	10.5	4.8	20.2	6.5	7.4	2.4	10.5	3.5	0.9	6.1	20.3	5.3	16.5
8	D	0.0	0.3	3.5	2.8	2.6	12.7	4.7	3.6	6.5	6.4	1.8	2.1	1.7	3.0	5.2
9	A	0.0	0.0	0.0	0.1	0.7	0.6	14.4	2.4	2.8	0.6	2.5	1.2	0.0	1.1	2.2
10	T	0.0	0.0	0.0	0.1	0.0	0.6	1.6	4.8	4.1	0.6	1.2	1.2	1.7	0.4	0.8
11	A	0.0	0.0	0.0	0.0	0.0	0.1	0.8	0.0	1.6	0.0	1.8	1.2	0.8	0.8	0.6
12		0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	1.7	1.5	0.3	0.0	0.0	0.0
13		0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0
14		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	143.6	35.2	126.5	69.6	39.3	42.2	75.5	41.6	32.0	28.4	21.2	31.3	38.1	18.7	38.2
Size	0	4	128	36	595	476	991	802	506	1033	645	260	535	225	233	202
Trips	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0

Table 5-7.1. The estimated number of lake whitefish caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0		0	0	0	0	0	0	0	0	0	0	0
2				135,102		0	0	163	0	0	0	0	0	0	0	47
3				0		0	189	163	0	0	0	0	23	0	0	0
4	N	N	N	0	N	114	2,646	980	712	659	101	42	210	0	0	0
5	O	O	O	0	O	1,083	5,859	10,614	5,089	2,371	5,433	1,865	373	263	48	94
6				0		1,624	6,048	11,920	10,686	1,976	2,918	3,858	5,056	3,374	822	749
7				0		1,852	2,268	3,919	7,836	6,849	5,332	890	1,794	6,879	4,254	6,599
8	D	D	D	0	D	1,054	3,591	1,306	1,934	3,820	4,829	1,060	443	1,446	4,254	4,212
9	A	A	A	0	A	427	1,890	1,470	1,730	2,239	2,415	805	396	219	967	3,791
10	T	T	T	0	T	171	378	816	1,221	922	503	127	140	88	338	562
11	A	A	A	0	A	85	189	1,143	509	922	1,006	170	23	88	0	0
12				0		57	189	816	305	263	503	42	23	0	0	0
13				0		0	0	327	102	132	101	42	0	0	0	0
14				0		0	0	0	0	132	201	0	0	0	0	0
15				0		0	0	163	0	0	0	0	0	0	0	0
Total	0	0	0	135,102	0	6,468	23,248	33,802	30,125	20,285	23,341	8,903	8,482	12,356	10,684	16,053
Mean Age	--	--	--	2.00	--	6.83	6.30	6.44	6.68	7.45	7.24	6.60	6.45	6.89	7.59	7.77

Table 5-7.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2				1,063.7		0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3				0.0		0.0	0.5	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
4	N	N	N	0.0	N	0.8	7.6	2.4	1.6	1.6	0.2	0.2	0.7	0.0	0.0	0.0
5	O	O	O	0.0	O	7.4	16.8	25.5	11.7	5.8	13.3	6.6	1.3	0.7	0.1	0.2
6				0.0		11.1	17.3	28.6	24.5	4.8	7.2	13.7	17.3	8.5	1.3	1.3
7				0.0		12.7	6.5	9.4	18.0	16.7	13.1	3.2	6.1	17.4	7.0	11.7
8	D	D	D	0.0	D	7.2	10.3	3.1	4.4	9.3	11.9	3.8	1.5	3.7	7.0	7.5
9	A	A	A	0.0	A	2.9	5.4	3.5	4.0	5.5	5.9	2.9	1.4	0.6	1.6	6.7
10	T	T	T	0.0	T	1.2	1.1	2.0	2.8	2.3	1.2	0.5	0.5	0.2	0.6	1.0
11	A	A	A	0.0	A	0.6	0.5	2.7	1.2	2.3	2.5	0.6	0.1	0.2	0.0	0.0
12				0.0		0.4	0.5	2.0	0.7	0.6	1.2	0.2	0.1	0.0	0.0	0.0
13				0.0		0.0	0.0	0.8	0.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0
14				0.0		0.0	0.0	0.0	0.0	0.3	0.5	0.0	0.0	0.0	0.0	0.0
15				0.0		0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	1,063.7	0.0	44.4	66.5	81.2	69.2	49.6	57.3	31.7	29.0	31.3	17.5	28.5
Size	0	0	0	3	0	228	130	207	300	154	233	210	365	284	222	345
Trips	0	0	0	0	0	6	3	5	9	4	7	6	11	8	7	11

Table 5-8.1. The estimated number of lake whitefish caught in gill nets in management area 5-8. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	606	0	0	0	0	0	0	0	0	0	0	0
2	0	649	620	590	364	0	0	16	0	0	0	43	0	0	0	0
3	93	185	52	904	1,576	82	349	63	0	615	56	1,605	0	0	0	0
4	3,779	2,564	5,787	4,758	3,759	822	8,330	2,637	211	1,846	278	694	0	0	0	1,794
5	4,817	3,985	8,215	14,588	5,529	3,907	2,524	11,444	3,375	523	5,113	14,360	2,438	2,147	694	0
6	1,112	1,946	4,702	6,842	6,523	3,660	3,549	3,045	9,662	2,708	982	8,720	15,058	7,334	14,575	12,559
7	148	463	2,222	3,578	2,716	6,086	2,831	1,884	1,266	5,907	3,038	2,039	2,725	22,897	17,351	17,941
8	111	93	310	983	1,479	2,838	2,565	1,303	2,067	1,446	2,649	3,124	1,434	2,325	12,840	23,324
9	74	154	52	275	897	1,480	2,175	1,256	1,013	1,385	1,408	1,649	860	716	3,470	1,794
10	37	62	103	157	170	987	1,313	1,083	1,477	1,046	1,167	1,996	717	358	1,562	1,794
11	0	0	52	157	145	370	821	691	1,055	985	1,074	1,258	143	894	694	0
12	19	31	0	197	73	247	246	518	464	646	519	954	0	716	347	0
13	0	0	52	0	97	123	103	63	295	308	185	260	143	179	0	0
14	19	0	0	0	24	41	0	47	42	62	148	43	0	0	0	1,794
15	0	0	0	0	24	82	41	47	42	0	37	43	0	0	0	0
Total	10,207	10,133	22,166	33,030	23,983	20,726	24,846	24,097	20,970	17,476	16,655	36,788	23,519	37,565	51,534	61,001
Mean Age	4.86	4.94	5.17	5.39	5.54	6.95	6.25	6.14	7.02	7.29	7.36	6.41	6.44	7.04	7.25	7.44

Table 5-8.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 5-8. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	7.3	1.5	1.8	1.6	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3	0.9	2.1	0.1	2.8	6.7	0.3	9.7	1.1	0.0	2.3	0.2	2.2	0.0	0.0	0.0	0.0
4	35.5	28.8	14.4	14.5	16.1	3.0	230.6	48.2	0.9	6.8	0.9	1.0	0.0	0.0	0.0	2.7
5	45.2	44.8	20.5	44.5	23.6	14.3	69.9	209.4	14.7	1.9	16.9	19.8	3.7	2.6	0.9	0.0
6	10.4	21.9	11.7	20.9	27.9	13.4	98.3	55.7	42.2	10.0	3.2	12.0	23.0	8.8	18.0	18.6
7	1.4	5.2	5.5	10.9	11.6	22.4	78.4	34.5	5.5	21.9	10.1	2.8	4.2	27.4	21.4	26.6
8	1.0	1.0	0.8	3.0	6.3	10.4	71.0	23.8	9.0	5.4	8.8	4.3	2.2	2.8	15.8	34.5
9	0.7	1.7	0.1	0.8	3.8	5.4	60.2	23.0	4.4	5.1	4.7	2.3	1.3	0.9	4.3	2.7
10	0.3	0.7	0.3	0.5	0.7	3.6	36.4	19.8	6.4	3.9	3.9	2.8	1.1	0.4	1.9	2.7
11	0.0	0.0	0.1	0.5	0.6	1.4	22.7	12.6	4.6	3.7	3.6	1.7	0.2	1.1	0.9	0.0
12	0.2	0.3	0.0	0.6	0.3	0.9	6.8	9.5	2.0	2.4	1.7	1.3	0.0	0.9	0.4	0.0
13	0.0	0.0	0.1	0.0	0.4	0.5	2.8	1.1	1.3	1.1	0.6	0.4	0.2	0.2	0.0	0.0
14	0.2	0.0	0.0	0.0	0.1	0.2	0.0	0.9	0.2	0.2	0.5	0.1	0.0	0.0	0.0	2.7
15	0.0	0.0	0.0	0.0	0.1	0.3	1.1	0.9	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Total	95.9	113.9	55.2	100.7	102.6	76.1	687.9	440.8	91.5	64.8	55.1	50.8	35.9	45.0	63.6	90.4
Size	551	328	432	842	992	523	1305	1633	592	718	912	1247	952	1390	859	36
Trips	11	7	7	16	21	5	9	12	8	11	17	15	0	0	0	0

Table 5-9.1. The estimated number of lake whitefish caught in gill nets in management area 5-9. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1			0	0	0	0	0	0	0	0	0	0	0	0	0	0
2			154	34	0	0	0	0	0	0	0	0	0	0	0	0
3			0	134	1,046	464	230	0	132	43	0	333	0	0	0	0
4	N	N	2,534	2,217	4,336	1,724	15,742	6,818	728	1,536	1,311	0	0	0	0	0
5	O	O	13,439	9,405	8,826	10,408	8,140	23,946	8,145	1,835	15,157	8,333	3,198	572	325	397
6			9,216	9,002	5,658	8,353	6,527	8,315	17,449	8,151	2,253	22,555	40,956	13,927	10,733	4,962
7			4,147	3,057	2,860	7,955	3,532	1,663	4,702	11,095	6,759	3,667	9,962	47,887	17,780	43,072
8	D	D	1,152	2,217	1,292	3,712	2,764	1,330	2,814	3,883	5,080	3,722	1,845	6,678	11,058	14,291
9	A	A	154	504	1,199	1,922	1,152	998	1,722	2,518	2,581	2,000	615	382	759	6,153
10	T	T	77	202	154	729	691	1,164	1,523	1,110	1,352	944	246	191	325	397
11	A	A	0	0	0	530	307	0	695	982	1,311	889	615	382	0	198
12			0	67	62	66	230	0	497	768	533	222	369	191	0	198
13			0	0	31	0	230	0	33	213	287	500	123	191	0	0
14			0	0	0	0	0	0	99	85	123	56	0	0	0	0
15			0	34	31	0	0	0	33	43	0	0	0	0	0	0
Total	0	0	30,872	26,871	25,494	35,864	39,548	44,234	38,572	32,262	36,745	43,222	57,929	70,400	40,980	69,669
Mean Age	--	--	5.61	5.86	5.60	6.33	5.48	5.42	6.50	7.17	6.68	6.49	6.34	6.95	7.05	7.34

Table 5-9.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 5-9. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2			0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3			0.0	0.7	6.8	2.0	1.0	0.0	0.5	0.1	0.0	1.1	0.0	0.0	0.0	0.0
4	N	N	12.2	11.7	28.1	7.2	68.8	35.5	2.6	4.6	4.1	0.0	0.0	0.0	0.0	0.0
5	O	O	64.5	49.6	57.1	43.8	35.6	124.7	29.6	5.4	47.7	27.5	10.8	1.6	1.0	1.0
6			44.3	47.5	36.6	35.1	28.5	43.3	63.3	24.2	7.1	74.5	138.8	37.9	31.7	12.6
7			19.9	16.1	18.5	33.5	15.4	8.7	17.1	32.9	21.3	12.1	33.8	130.3	52.5	109.0
8	D	D	5.5	11.7	8.4	15.6	12.1	6.9	10.2	11.5	16.0	12.3	6.3	18.2	32.6	36.2
9	A	A	0.7	2.7	7.8	8.1	5.0	5.2	6.2	7.5	8.1	6.6	2.1	1.0	2.2	15.6
10	T	T	0.4	1.1	1.0	3.1	3.0	6.1	5.5	3.3	4.3	3.1	0.8	0.5	1.0	1.0
11	A	A	0.0	0.0	0.0	2.2	1.3	0.0	2.5	2.9	4.1	2.9	2.1	1.0	0.0	0.5
12			0.0	0.4	0.4	0.3	1.0	0.0	1.8	2.3	1.7	0.7	1.3	0.5	0.0	0.5
13			0.0	0.0	0.2	0.0	1.0	0.0	0.1	0.6	0.9	1.7	0.4	0.5	0.0	0.0
14			0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.4	0.2	0.0	0.0	0.0	0.0
15			0.0	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	148.3	141.8	165.0	150.8	172.7	230.4	140.0	95.7	115.6	142.8	196.3	191.5	121.0	176.3
Size	0	0	403	802	829	542	515	267	1167	758	899	779	473	372	383	351
Trips	0	0	8	16	16	12	10	6	22	14	17	13	9	8	8	7

Table 6-1.1. The estimated number of lake whitefish caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	133	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0
2	5,199	1,156	2,935	2,291	2,620	2,487	261	2,201	803	605	0	0	0	0	0	0
3	17,130	9,982	4,367	4,200	15,481	1,339	3,265	700	4,641	4,236	263	0	155	1,112	1,031	317
4	48,790	44,677	63,928	38,643	45,492	24,676	14,368	11,503	10,978	37,061	20,250	16,090	7,142	4,291	29,896	12,672
5	35,726	28,973	43,884	67,053	43,904	50,883	35,528	50,615	21,243	27,985	40,105	41,695	29,811	46,566	17,396	48,469
6	18,463	16,921	23,409	28,486	36,203	53,178	40,361	44,713	46,859	25,564	19,066	28,028	29,345	37,507	29,123	37,381
7	2,533	5,722	8,877	14,969	19,054	40,744	24,556	37,011	46,055	36,456	17,620	21,799	19,719	31,150	17,783	21,542
8	866	1,217	2,506	5,957	7,939	20,850	19,593	22,407	27,312	21,178	23,274	23,010	12,576	24,793	14,561	17,740
9	667	243	501	1,527	2,938	5,356	8,751	12,704	15,798	11,648	13,412	11,938	9,316	13,509	9,407	9,821
10	533	365	72	458	794	1,339	2,221	4,901	10,443	4,841	9,204	5,882	10,868	11,443	4,897	6,653
11	267	183	72	153	476	383	914	900	3,124	1,361	4,471	1,730	2,018	6,675	1,675	4,118
12	333	426	72	0	159	0	0	700	625	454	1,052	1,038	1,242	1,589	258	317
13	267	548	0	76	79	0	0	0	89	151	920	173	155	477	129	317
14	67	61	0	0	0	0	0	0	89	0	0	0	0	318	0	0
15	0	183	0	0	159	0	0	0	0	0	0	0	0	0	0	0
Total	130,974	110,658	150,622	163,814	175,298	201,235	149,819	188,457	188,060	171,538	149,636	151,384	122,348	179,430	126,156	159,346
Mean Age	4.53	4.80	4.80	5.20	5.20	5.96	6.19	6.34	6.80	6.15	6.63	6.46	6.74	6.88	6.20	6.40

Table 6-1.2. CPUE (number/km) for lake whitefish caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	1.8	0.5	1.5	1.2	1.2	1.0	0.1	1.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3	5.9	4.2	2.2	2.2	7.3	0.5	1.8	0.4	1.9	1.3	0.1	0.0	0.1	0.4	0.3	0.1
4	16.9	18.7	32.5	20.3	21.3	9.7	8.0	7.0	4.5	11.4	7.0	5.3	2.7	1.4	9.9	4.1
5	12.4	12.1	22.3	35.3	20.6	20.0	19.9	31.0	8.7	8.6	13.9	13.8	11.2	14.9	5.7	15.6
6	6.4	7.1	11.9	15.0	17.0	20.9	22.6	27.4	19.2	7.9	6.6	9.3	11.1	12.0	9.6	12.1
7	0.9	2.4	4.5	7.9	8.9	16.0	13.7	22.6	18.9	11.2	6.1	7.2	7.4	10.0	5.9	7.0
8	0.3	0.5	1.3	3.1	3.7	8.2	10.9	13.7	11.2	6.5	8.1	7.6	4.7	7.9	4.8	5.7
9	0.2	0.1	0.3	0.8	1.4	2.1	4.9	7.8	6.5	3.6	4.7	3.9	3.5	4.3	3.1	3.2
10	0.2	0.2	0.0	0.2	0.4	0.5	1.2	3.0	4.3	1.5	3.2	1.9	4.1	3.7	1.6	2.1
11	0.1	0.1	0.0	0.1	0.2	0.2	0.5	0.6	1.3	0.4	1.6	0.6	0.8	2.1	0.6	1.3
12	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.4	0.3	0.1	0.4	0.3	0.5	0.5	0.1	0.1
13	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.2	0.0	0.1
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
15	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	45.5	46.2	76.5	86.2	82.1	79.1	83.7	115.3	77.0	52.8	51.9	50.0	46.1	57.4	41.6	51.4
Size	1966	1819	2105	2150	2211	1053	1156	1890	2116	1140	1148	880	799	1139	986	1614
Trips	41	37	44	44	46	22	24	38	43	23	23	18	16	24	20	33

Table 5-2.17. The estimated number of lake herring caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0	0		0				0	0				
2				71	0		0				0	0				
3				160	256		0				0	0				
4	N	N	N	550	427	N	180	N	N	N	0	204	N	N	N	N
5	O	O	O	728	727	O	360	O	O	O	67	204	O	O	O	O
6				408	641		450				133	204				
7				764	556		225				133	204				
8	D	D	D	479	556	D	90	D	D	D	133	204	D	D	D	D
9	A	A	A	426	598	A	45	A	A	A	133	102	A	A	A	A
10	T	T	T	195	85	T	45	T	T	T	0	0	T	T	T	T
11	A	A	A	160	0	A	0	A	A	A	0	0	A	A	A	A
12				107	0		0				0	0				
13				124	0		0				0	0				
14				18	0		0				0	0				
15				0	0		0				0	0				
Total	0	0	0	4,191	3,847	0	1,396	0	0	0	599	1,120	0	0	0	0
Mean Age	--	--	--	6.87	6.38	--	6.00	--	--	--	7.22	6.27	--	--	--	--

Table 5-2.18. CPUE (number/km) for lake herring caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0.0	0.0						0.0	0.0				
2				1.6	0.0						0.0	0.0				
3				3.7	9.1						0.0	0.0				
4	N	N	N	12.7	15.2	N	N	N	N	N	0.0	60.1	N	N	N	N
5	O	O	O	16.8	25.8	O	O	O	O	O	2.2	60.1	O	O	O	O
6				9.4	22.8						4.5	60.1				
7				17.6	19.7						4.5	60.1				
8	D	D	D	11.1	19.7	D	D	D	D	D	4.5	60.1	D	D	D	D
9	A	A	A	9.8	21.3	A	A	A	A	A	4.5	30.0	A	A	A	A
10	T	T	T	4.5	3.0	T	T	T	T	T	0.0	0.0	T	T	T	T
11	A	A	A	3.7	0.0	A	A	A	A	A	0.0	0.0	A	A	A	A
12				2.5	0.0						0.0	0.0				
13				2.9	0.0						0.0	0.0				
14				0.4	0.0						0.0	0.0				
15				0.0	0.0						0.0	0.0				
Total	0.0	0.0	0.0	96.8	136.6	0.0	0.0	0.0	0.0	0.0	20.1	330.5	0.0	0.0	0.0	0.0
Size	0	0	0	237	90	0	33	0	0	0	9	11	0	0	0	0
Trips	0	0	0	8	3	0	1	0	0	0	0	0	0	0	0	0

Table 5-7.17. The estimated number of lake herring caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1							0			0	0	0	0			
2							0			0	0	0	220			
3							0			0	0	0	66			
4	N	N	N	N	N	N	0	N	N	840	0	72	66	N	N	N
5	O	O	O	O	O	O	0	O	O	0	288	287	286	O	O	O
6							0			0	96	669	264			
7							0			0	0	191	176			
8	D	D	D	D	D	D	194	D	D	0	0	48	44	D	D	D
9	A	A	A	A	A	A	0	A	A	0	96	24	0	A	A	A
10	T	T	T	T	T	T	0	T	T	0	0	0	0	T	T	T
11	A	A	A	A	A	A	194	A	A	0	0	0	0	A	A	A
12							0			0	0	0	0			
13							0			0	0	0	0			
14							0			0	0	0	0			
15							0			0	0	0	0			
Total	0	0	0	0	0	0	388	0	0	840	480	1,290	1,121	0	0	0
Mean Age	--	--	--	--	--	--	9.50	--	--	4.00	6.00	5.94	4.90	--	--	--

Table 5-7.18. CPUE (number/km) for lake herring caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1										0.0	0.0		0.0			
2										0.0	0.0		16.5			
3										0.0	0.0		5.0			
4	N	N	N	N	N	N	N	N	N	92.9	0.0	N	5.0	N	N	N
5	O	O	O	O	O	O	O	O	O	0.0	56.8	O	21.5	O	O	O
6										0.0	18.9		19.8			
7										0.0	0.0		13.2			
8	D	D	D	D	D	D	D	D	D	0.0	0.0	D	3.3	D	D	D
9	A	A	A	A	A	A	A	A	A	0.0	18.9	A	0.0	A	A	A
10	T	T	T	T	T	T	T	T	T	0.0	0.0	T	0.0	T	T	T
11	A	A	A	A	A	A	A	A	A	0.0	0.0	A	0.0	A	A	A
12										0.0	0.0		0.0			
13										0.0	0.0		0.0			
14										0.0	0.0		0.0			
15										0.0	0.0		0.0			
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.9	94.6	0.0	84.2	0.0	0.0	0.0
Size	0	0	0	0	0	0	2	0	0	1	5	54	51	0	0	0
Trips	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0

Table 6-1.17. The estimated number of lake herring caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0						0			0	0	0		0	0	
2	0						0			0	0	0		828	0	
3	0						0			0	1,213	0		0	0	
4	0	N	N	N	N	N	625	N	N	1,826	809	0	N	828	8,851	N
5	0	O	O	O	O	O	1,875	O	O	913	1,618	0	O	828	0	O
6	0						2,499			3,195	5,257	0		1,655	0	
7	0						1,250			4,108	2,831	0		3,310	0	
8	0	D	D	D	D	D	1,250	D	D	2,738	2,022	0	D	4,138	8,851	D
9	4,962	A	A	A	A	A	0	A	A	1,826	809	0	A	2,483	0	A
10	4,962	T	T	T	T	T	0	T	T	0	0	0	T	828	0	T
11	0	A	A	A	A	A	0	A	A	0	0	12,729	A	828	0	A
12	0						0			0	0	0		4,138	0	
13	0						0			0	0	0		0	0	
14	0						0			0	0	0		0	0	
15	0						0			0	0	0		0	0	
Total	9,924	0	0	0	0	0	7,498	0	0	14,605	14,559	12,729	0	19,862	17,703	0
Mean Age	9.50	--	--	--	--	--	6.08	--	--	6.72	6.17	11.00	--	8.29	6.00	--

Table 6-1.18. CPUE (number/km) for lake herring caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0						0.0			0.0	0.0				0.0	
2	0.0						0.0			0.0	0.0				0.0	
3	0.0						0.0			0.0	16.9				0.0	
4	0.0	N	N	N	N	N	11.1	N	N	14.3	11.2	N	N	N	706.2	N
5	0.0	O	O	O	O	O	33.4	O	O	7.2	22.5	O	O	O	0.0	O
6	0.0						44.5			25.1	73.1				0.0	
7	0.0						22.3			32.3	39.3				0.0	
8	0.0	D	D	D	D	D	22.3	D	D	21.5	28.1	D	D	D	706.2	D
9	29.4	A	A	A	A	A	0.0	A	A	14.3	11.2	A	A	A	0.0	A
10	29.4	T	T	T	T	T	0.0	T	T	0.0	0.0	T	T	T	0.0	T
11	0.0	A	A	A	A	A	0.0	A	A	0.0	0.0	A	A	A	0.0	A
12	0.0						0.0			0.0	0.0				0.0	
13	0.0						0.0			0.0	0.0				0.0	
14	0.0						0.0			0.0	0.0				0.0	
15	0.0						0.0			0.0	0.0				0.0	
Total	58.8	0.0	0.0	0.0	0.0	0.0	133.6	0.0	0.0	114.7	202.3	0.0	0.0	0.0	1,412.4	0.0
Size	2	0	0	0	0	0	12	0	0	34	42	1	0	30	2	0
Trips	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0

Table 4-1.5. The estimated number of chub caught in gill nets in management area 4-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0		0												
2	0	0		0												
3	0	774		0												
4	1,412	4,645	N	554	N	N	N	N	N	N	N	N	N	N	N	N
5	2,219	774	O	3,327	O	O	O	O	O	O	O	O	O	O	O	O
6	6,252	10,065		8,871												
7	10,085	19,356		10,535												
8	19,161	28,647	D	9,980	D	D	D	D	D	D	D	D	D	D	D	D
9	20,371	25,550	A	3,604	A	A	A	A	A	A	A	A	A	A	A	A
10	8,471	10,839	T	1,663	T	T	T	T	T	T	T	T	T	T	T	T
11	2,219	2,323	A	0	A	A	A	A	A	A	A	A	A	A	A	A
12	202	2,323		0												
13	0	774		0												
14	0	0		0												
15	0	0		0												
Total	70,390	106,070	0	38,535	0	0	0	0	0	0	0	0	0	0	0	0
Mean Age	8.14	8.03	--	7.13	--	--	--	--	--	--	--	--	--	--	--	--

Table 4-1.6. CPUE (number/km) for chub caught in gill nets in management area 4-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0		0.0												
2	0.0	0.0		0.0												
3	0.0	2.7		0.0												
4	7.0	16.3	N	5.0	N	N	N	N	N	N	N	N	N	N	N	N
5	11.0	2.7	O	29.9	O	O	O	O	O	O	O	O	O	O	O	O
6	30.9	35.4		79.8												
7	49.9	68.1		94.8												
8	94.8	100.8	D	89.8	D	D	D	D	D	D	D	D	D	D	D	D
9	100.8	89.9	A	32.4	A	A	A	A	A	A	A	A	A	A	A	A
10	41.9	38.1	T	15.0	T	T	T	T	T	T	T	T	T	T	T	T
11	11.0	8.2	A	0.0	A	A	A	A	A	A	A	A	A	A	A	A
12	1.0	8.2		0.0												
13	0.0	2.7		0.0												
14	0.0	0.0		0.0												
15	0.0	0.0		0.0												
Total	348.2	373.3	0.0	346.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	350	139	0	140	0	0	0	0	0	0	0	0	0	0	0	0
Trips	5	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-2.5. The estimated number of chub caught in gill nets in management area 4-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0			0							
2	0	0	0	0	0	0			0							
3	434	350	0	0	912	0			0							
4	3,254	1,399	0	1,421	3,649	22,432	N	N	0	N	N	N	N	N	N	N
5	10,197	10,142	2,598	7,106	15,507	83,318	O	O	115	O	O	O	O	O	O	O
6	24,732	47,911	17,241	18,476	49,259	57,682			115							
7	57,275	57,703	36,845	46,899	66,591	48,068			204							
8	58,793	60,501	37,789	28,898	60,205	9,614	D	D	127	D	D	D	D	D	D	D
9	40,136	43,715	24,091	20,370	28,278	3,205	A	A	64	A	A	A	A	A	A	A
10	14,102	14,688	6,739	7,580	8,210	0	T	T	13	T	T	T	T	T	T	T
11	1,519	4,197	3,070	1,421	1,824	0	A	A	0	A	A	A	A	A	A	A
12	434	0	236	0	0	0			0							
13	0	350	0	0	0	0			0							
14	0	0	0	0	0	0			0							
15	0	0	0	0	0	0			0							
Total	210,875	240,955	130,610	132,171	234,435	224,319	0	0	637	0	0	0	0	0	0	0
Mean Age	7.63	7.57	7.79	7.46	7.23	5.77	--	--	6.92	--	--	--	--	--	--	--

Table 4-2.6. CPUE (number/km) for chub caught in gill nets in management area 4-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0			0.0							
2	0.0	0.0	0.0	0.0	0.0	0.0			0.0							
3	0.6	0.5	0.0	0.0	1.2	0.0			0.0							
4	4.9	2.2	0.0	4.0	4.7	42.2	N	N	0.0	N	N	N	N	N	N	N
5	15.2	15.8	6.0	20.2	20.1	156.7	O	O	5.2	O	O	O	O	O	O	O
6	37.0	74.7	39.7	52.4	63.9	108.5			5.2							
7	85.7	89.9	84.8	133.0	86.3	90.4			9.2							
8	87.9	94.3	87.0	82.0	78.1	18.1	D	D	5.8	D	D	D	D	D	D	D
9	60.0	68.1	55.5	57.8	36.7	6.0	A	A	2.9	A	A	A	A	A	A	A
10	21.1	22.9	20.1	21.5	10.6	0.0	T	T	0.6	T	T	T	T	T	T	T
11	2.3	6.5	7.1	4.0	2.4	0.0	A	A	0.0	A	A	A	A	A	A	A
12	0.6	0.0	0.5	0.0	0.0	0.0			0.0							
13	0.0	0.5	0.0	0.0	0.0	0.0			0.0							
14	0.0	0.0	0.0	0.0	0.0	0.0			0.0							
15	0.0	0.0	0.0	0.0	0.0	0.0			0.0							
Total	315.4	375.5	300.7	374.8	303.9	421.9	0.0	0.0	28.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	980	700	559	280	260	70	0	0	50	0	0	0	0	0	0	0
Trips	14	10	8	4	3	1	0	0	1	0	0	0	0	0	0	0

Table 4-3.5. The estimated number of chub caught in gill nets in management area 4-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0				0				
2	0	0	0	0	0	0	0	0				0				
3	320	405	0	895	489	0	0	0	N	N	N	0	N	N	N	N
4	4,806	4,055	4,699	2,237	4,398	2,671	3,598	0	O	O	O	0	O	O	O	O
5	19,543	30,409	14,566	14,314	25,412	8,012	21,589	0				1,271				
6	29,475	70,144	53,094	33,995	68,417	24,035	55,771	179				0				
7	59,910	86,767	62,961	67,095	76,236	53,412	59,369	967				0	D	D	D	D
8	73,046	80,685	73,298	61,280	43,005	50,741	61,168	1,611	D	D	D	0	A	A	A	A
9	40,047	47,033	35,239	29,075	11,240	32,047	25,187	1,325	A	A	A	0	T	T	T	T
10	11,854	16,624	10,807	6,262	3,421	13,353	7,196	644	T	T	T	0	A	A	A	A
11	961	2,027	2,349	895	977	0	0	251	A	A	A	0				
12	0	0	940	0	0	0	0	0				0				
13	0	0	0	0	0	2,671	0	0				0				
14	0	0	0	0	0	0	0	0				0				
15	0	0	0	0	0	0	0	0								
Total	239,962	338,149	257,951	216,047	233,596	186,942	233,877	4,977	0	0	0	1,271	0	0	0	0
Mean Age	7.45	7.26	7.36	7.32	6.77	7.66	7.10	8.41	--	--	--	6.00	--	--	--	--

Table 4-3.6. CPUE (number/km) for chub caught in gill nets in management area 4-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
3	0.5	0.5	0.0	1.3	1.0	0.0	0.0	0.0	N	N	N	N	N	N	N	N
4	8.1	5.4	7.3	3.1	8.7	8.6	4.4	0.0	O	O	O	O	O	O	O	O
5	32.9	40.4	22.7	20.0	50.0	25.8	26.3	0.0								
6	49.6	93.3	82.6	47.5	134.6	77.3	68.0	3.4								
7	100.9	115.4	98.0	93.8	150.0	171.8	72.4	18.2								
8	123.0	107.3	114.1	85.7	84.6	163.2	74.6	30.3	D	D	D	D	D	D	D	D
9	67.4	62.5	54.9	40.7	22.1	103.1	30.7	24.9	A	A	A	A	A	A	A	A
10	20.0	22.1	16.8	8.8	6.7	43.0	8.8	12.1	T	T	T	T	T	T	T	T
11	1.6	2.7	3.7	1.3	1.9	0.0	0.0	4.7	A	A	A	A	A	A	A	A
12	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0								
13	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0								
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
Total	404.0	449.7	401.5	302.1	459.6	601.3	285.3	93.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	755	840	560	490	480	70	130	140	0	0	0	1	0	0	0	0
Trips	11	12	8	7	6	1	1	2	0	0	0	0	0	0	0	0

Table 4-4.5. The estimated number of chub caught in gill nets in management area 4-4. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0		0									
2	431	0	0	0	0		0									
3	1,725	453	844	0	2,638		0									
4	13,369	9,056	6,474	900	26,377	N	0	N	N	N	N	N	N	N	N	N
5	60,808	75,168	52,633	8,233	200,467	O	5,101	O	O	O	O	O	O	O	O	O
6	119,029	166,637	143,545	37,948	292,788		30,606									
7	225,120	177,505	155,929	60,460	316,527		137,729									
8	231,589	176,146	102,170	44,252	218,931	D	229,548	D	D	D	D	D	D	D	D	D
9	107,385	75,168	42,782	17,881	68,581	A	209,144	A	A	A	A	A	A	A	A	A
10	34,070	30,339	9,570	6,561	10,551	T	71,415	T	T	T	T	T	T	T	T	T
11	7,332	3,623	3,096	1,286	5,275	A	15,303	A	A	A	A	A	A	A	A	A
12	2,156	453	0	0	0		0									
13	0	453	0	0	0		5,101									
14	0	0	0	0	0		0									
15	0	0	0	0	0		0									
Total	803,015	714,999	517,042	177,521	1,142,136	0	703,948	0	0	0	0	0	0	0	0	0
Mean Age	7.37	7.13	6.92	7.27	6.67	--	8.30	--	--	--	--	--	--	--	--	--

Table 4-4.6. CPUE (number/km) for chub caught in gill nets in management area 4-4. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0		0.0									
2	0.4	0.0	0.0	0.0	0.0		0.0									
3	1.7	0.5	1.0	0.0	18.8		0.0									
4	12.8	10.0	7.4	3.2	188.0	N	0.0	N	N	N	N	N	N	N	N	N
5	58.3	83.3	60.0	29.6	1,428.7	O	4.5	O	O	O	O	O	O	O	O	O
6	114.1	184.6	163.8	136.5	2,086.7		27.0									
7	215.8	196.6	177.9	217.4	2,255.8		121.6									
8	222.0	195.1	116.6	159.1	1,560.3	D	202.7	D	D	D	D	D	D	D	D	D
9	103.0	83.3	48.8	64.3	488.8	A	184.7	A	A	A	A	A	A	A	A	A
10	32.7	33.6	10.9	23.6	75.2	T	63.1	T	T	T	T	T	T	T	T	T
11	7.0	4.0	3.5	4.6	37.6	A	13.5	A	A	A	A	A	A	A	A	A
12	2.1	0.5	0.0	0.0	0.0		0.0									
13	0.0	0.5	0.0	0.0	0.0		4.5									
14	0.0	0.0	0.0	0.0	0.0		0.0									
15	0.0	0.0	0.0	0.0	0.0		0.0									
Total	769.9	792.0	589.9	638.4	8,139.9	0.0	621.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	1876	1603	1870	1401	4487	0	1555	0	0	0	0	0	0	0	0	0
Trips	27	23	28	20	7	0	2	0	0	0	0	0	0	0	0	0

Table 4-5.5. The estimated number of chub caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0				0	0	0				
2	568	0	0	468	571	0				2,690	0	194				
3	1,136	999	2,531	2,810	5,138	0				5,680	3,194	1,551				
4	2,273	3,748	12,024	12,646	16,557	755	N	N	N	7,175	10,646	2,521	N	N	N	N
5	13,638	12,244	26,263	29,977	38,824	2,643	O	O	O	11,061	12,775	5,042	O	O	O	O
6	29,548	21,489	43,666	65,574	71,367	5,285				18,534	20,228	3,297				
7	50,573	40,979	50,627	57,143	110,191	3,775				14,947	5,323	1,357				
8	61,369	48,225	28,478	25,761	63,374	566	D	D	D	7,175	1,065	0	D	D	D	D
9	31,821	22,738	10,125	10,773	25,121	189	A	A	A	2,093	0	194	A	A	A	A
10	10,228	3,748	1,266	1,874	9,706	0	T	T	T	0	0	0	T	T	T	T
11	568	1,249	0	0	1,142	0	A	A	A	299	0	0	A	A	A	A
12	0	500	0	0	0	0				0	0	0				
13	0	0	0	0	1,142	0				0	0	0				
14	0	0	0	0	0	0				0	0	0				
15	0	0	0	0	0	0				0	0	0				
Total	201,723	155,919	174,979	207,027	343,132	13,213	0	0	0	69,654	53,231	14,156	0	0	0	0
Mean Age	7.43	7.33	6.49	6.40	6.80	6.10	--	--	--	5.77	5.32	5.04	--	--	--	--

Table 4-5.6. CPUE (number/km) for chub caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0				
2	2.9	0.0	0.0	2.8	1.3	0.0				25.1	0.0	6.2				
3	5.8	3.8	16.2	16.6	12.0	0.0				53.0	35.5	49.6				
4	11.6	14.2	77.1	74.5	38.7	27.2	N	N	N	66.9	118.3	80.6	N	N	N	N
5	69.6	46.3	168.4	176.6	90.8	95.2	O	O	O	103.2	141.9	161.1	O	O	O	O
6	150.8	81.2	280.0	386.4	166.9	190.3				172.9	224.7	105.3				
7	258.1	154.9	324.6	336.7	257.7	135.9				139.4	59.1	43.4				
8	313.2	182.3	182.6	151.8	148.2	20.4	D	D	D	66.9	11.8	0.0	D	D	D	D
9	162.4	85.9	64.9	63.5	58.8	6.8	A	A	A	19.5	0.0	6.2	A	A	A	A
10	52.2	14.2	8.1	11.0	22.7	0.0	T	T	T	0.0	0.0	0.0	T	T	T	T
11	2.9	4.7	0.0	0.0	2.7	0.0	A	A	A	2.8	0.0	0.0	A	A	A	A
12	0.0	1.9	0.0	0.0	0.0	0.0				0.0	0.0	0.0				
13	0.0	0.0	0.0	0.0	2.7	0.0				0.0	0.0	0.0				
14	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0				
15	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0				
Total	1,029.5	589.3	1,121.9	1,219.9	802.6	475.8	0.0	0.0	0.0	649.7	591.3	452.3	0.0	0.0	0.0	0.0
Size	359	627	559	450	608	70	0	0	0	239	50	75	0	0	0	0
Trips	5	9	8	7	9	1	0	0	0	4	1	1	0	0	0	0

Table 4-7.5. The estimated number of chub caught in gill nets in management area 4-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0												
2	0	0	0	0												
3	273	519	638	0												
4	273	1,556	3,828	1,414	N	N	N	N	N	N	N	N	N	N	N	N
5	7,368	8,299	22,331	10,181	O	O	O	O	O	O	O	O	O	O	O	O
6	26,199	39,937	56,146	19,514												
7	53,763	56,534	77,839	25,735												
8	72,866	58,608	73,692	13,575	D	D	D	D	D	D	D	D	D	D	D	D
9	32,749	35,787	37,325	5,656	A	A	A	A	A	A	A	A	A	A	A	A
10	13,645	15,041	11,804	1,697	T	T	T	T	T	T	T	T	T	T	T	T
11	1,637	1,037	3,190	0	A	A	A	A	A	A	A	A	A	A	A	A
12	546	0	0	0												
13	0	0	319	0												
14	0	0	0	0												
15	0	0	0	0												
Total	209,319	217,318	287,112	77,772	0	0	0	0	0	0	0	0	0	0	0	0
Mean Age	7.70	7.53	7.29	6.82	--	--	--	--	--	--	--	--	--	--	--	--

Table 4-7.6. CPUE (number/km) for chub caught in gill nets in management area 4-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0												
2	0.0	0.0	0.0	0.0												
3	0.6	1.1	0.7	0.0												
4	0.6	3.2	4.5	6.0	N	N	N	N	N	N	N	N	N	N	N	N
5	15.7	17.0	26.1	42.9	O	O	O	O	O	O	O	O	O	O	O	O
6	55.7	81.6	65.7	82.2												
7	114.2	115.5	91.0	108.4												
8	154.8	119.7	86.2	57.2	D	D	D	D	D	D	D	D	D	D	D	D
9	69.6	73.1	43.7	23.8	A	A	A	A	A	A	A	A	A	A	A	A
10	29.0	30.7	13.8	7.1	T	T	T	T	T	T	T	T	T	T	T	T
11	3.5	2.1	3.7	0.0	A	A	A	A	A	A	A	A	A	A	A	A
12	1.2	0.0	0.0	0.0												
13	0.0	0.0	0.4	0.0												
14	0.0	0.0	0.0	0.0												
15	0.0	0.0	0.0	0.0												
Total	444.7	443.9	335.8	327.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	769	420	910	279	0	0	0	0	0	0	0	0	0	0	0	0
Trips	11	6	13	4	0	0	0	0	0	0	0	0	0	0	0	0

Table 5-2.5. The estimated number of chub caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0		0				0					
2	0	0	0	0	0		0				0					
3	0	337	468	0	183		771				1					
4	597	2,361	2,275	0	549	N	1,542	N	N	N	3	N	N	N	N	N
5	4,177	9,108	6,625	600	5,670	O	5,782	O	O	O	1	O	O	O	O	O
6	6,564	16,530	19,473	1,799	17,009		19,274				1					
7	15,813	22,096	18,469	13,592	26,702		23,899				1					
8	11,338	13,831	8,833	27,185	25,422	D	28,525	D	D	D	0	D	D	D	D	D
9	6,564	6,916	2,476	19,989	8,413	A	17,732	A	A	A	0	A	A	A	A	A
10	1,790	2,699	602	8,995	2,560	T	8,095	T	T	T	0	T	T	T	T	T
11	597	843	0	1,799	0	A	385	A	A	A	0	A	A	A	A	A
12	0	0	0	400	0		0				0					
13	0	0	0	0	0		0				0					
14	0	0	0	0	0		0				0					
15	0	0	0	0	0		0				0					
Total	47,440	74,723	59,223	74,358	86,508	0	106,005	0	0	0	9	0	0	0	0	0
Mean Age	7.33	6.95	6.56	8.35	7.22	--	7.48	--	--	--	4.83	--	--	--	--	--

Table 5-2.6. CPUE (number/km) for chub caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0		0.0									
2	0.0	0.0	0.0	0.0	0.0		0.0									
3	0.0	2.8	3.6	0.0	1.0		3.6									
4	5.1	19.8	17.4	0.0	3.0	N	7.2	N	N	N	N	N	N	N	N	N
5	35.6	76.3	50.7	3.1	31.1	O	27.1	O	O	O	O	O	O	O	O	O
6	56.0	138.6	149.0	9.4	93.3		90.4									
7	134.9	185.2	141.3	71.2	146.5		112.1									
8	96.7	115.9	67.6	142.5	139.5	D	133.8	D	D	D	D	D	D	D	D	D
9	56.0	58.0	18.9	104.8	46.2	A	83.2	A	A	A	A	A	A	A	A	A
10	15.3	22.6	4.6	47.1	14.0	T	38.0	T	T	T	T	T	T	T	T	T
11	5.1	7.1	0.0	9.4	0.0	A	1.8	A	A	A	A	A	A	A	A	A
12	0.0	0.0	0.0	2.1	0.0		0.0									
13	0.0	0.0	0.0	0.0	0.0		0.0									
14	0.0	0.0	0.0	0.0	0.0		0.0									
15	0.0	0.0	0.0	0.0	0.0		0.0									
Total	404.6	626.3	453.2	389.8	474.7	0.0	497.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	159	449	891	374	476	0	278	0	0	0	7	0	0	0	0	0
Trips	5	15	30	12	16	0	4	0	0	0	0	0	0	0	0	0

Table 5-3.5. The estimated number of chub caught in gill nets in management area 5-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0		0	0								
2	0	0	0	0	2,234		0	0								
3	0	2,450	1,384	0	4,468		0	0								
4	7,763	14,700	33,227	13,292	26,805	N	1,372	0	N	N	N	N	N	N	N	N
5	34,933	75,948	76,146	67,410	120,623	O	5,489	0	O	O	O	O	O	O	O	O
6	98,978	198,443	218,747	180,392	236,779		28,818	9,703								
7	206,689	269,491	311,507	231,662	252,415		83,024	22,641								
8	245,504	237,642	213,209	154,758	102,753	D	107,039	25,875	D	D	D	D	D	D	D	D
9	131,971	173,944	94,144	56,966	26,805	A	67,929	18,328	A	A	A	A	A	A	A	A
10	31,052	36,749	16,614	15,191	8,935	T	44,600	17,250	T	T	T	T	T	T	T	T
11	4,852	9,800	1,384	949	0	A	10,292	0	A	A	A	A	A	A	A	A
12	0	0	0	1,899	0		6,861	4,313								
13	970	0	0	0	0		0	0								
14	0	0	0	0	0		0	0								
15	0	0	0	0	0		0	0								
Total	762,713	1,019,166	966,363	722,519	781,817	0	355,425	98,111	0	0	0	0	0	0	0	0
Mean Age	7.57	7.32	6.98	6.96	6.48	--	8.15	8.29	--	--	--	--	--	--	--	--

Table 5-3.6. CPUE (number/km) for chub caught in gill nets in management area 5-3. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0		0.0	0.0								
2	0.0	0.0	0.0	0.0	1.0		0.0	0.0								
3	0.0	0.9	0.5	0.0	2.0		0.0	0.0								
4	3.3	5.7	11.2	5.9	12.0	N	1.2	0.0	N	N	N	N	N	N	N	N
5	14.7	29.2	25.7	30.0	54.2	O	5.0	0.0	O	O	O	O	O	O	O	O
6	41.7	76.4	73.9	80.2	106.4		26.0	12.1								
7	87.0	103.8	105.3	103.0	113.4		74.9	28.3								
8	103.3	91.5	72.0	68.8	46.2	D	96.6	32.4	D	D	D	D	D	D	D	D
9	55.5	67.0	31.8	25.3	12.0	A	61.3	22.9	A	A	A	A	A	A	A	A
10	13.1	14.1	5.6	6.8	4.0	T	40.2	21.6	T	T	T	T	T	T	T	T
11	2.0	3.8	0.5	0.4	0.0	A	9.3	0.0	A	A	A	A	A	A	A	A
12	0.0	0.0	0.0	0.8	0.0		6.2	5.4								
13	0.4	0.0	0.0	0.0	0.0		0.0	0.0								
14	0.0	0.0	0.0	0.0	0.0		0.0	0.0								
15	0.0	0.0	0.0	0.0	0.0		0.0	0.0								
Total	321.0	392.4	326.6	321.1	351.2	0.0	320.7	122.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	788	419	701	764	653	0	1019	223	0	0	0	0	0	0	0	0
Trips	12	6	10	11	5	0	8	2	0	0	0	0	0	0	0	0

Table 5-5.5. The estimated number of chub caught in gill nets in management area 5-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0		0	0	0	0			0						
2		0		0	0	0	0			0						
3		0		0	650	0	0			0						
4	N	1,638	N	853	2,924	2,932	0	N	N	3	N	N	N	N	N	N
5	O	8,189	O	6,820	20,793	13,196	1,506	O	O	28	O	O	O	O	O	O
6		31,117		14,493	45,484	25,658	7,531			46						
7		25,385		27,282	39,961	32,256	19,579			21						
8	D	11,464	D	18,472	17,544	9,530	15,061	D	D	31	D	D	D	D	D	D
9	A	3,275	A	6,536	6,173	5,132	5,271	A	A	9	A	A	A	A	A	A
10	T	0	T	1,137	1,624	1,486	753	T	T	0	T	T	T	T	T	T
11	A	819	A	284	1,624	733	0	A	A	0	A	A	A	A	A	A
12		0		0	650	0	753			0						
13		0		0	650	0	0			0						
14		0		0	0	0	0			0						
15		0		0	0	0	0			0						
Total	0	81,886	0	75,877	138,076	90,903	50,455	0	0	138	0	0	0	0	0	0
Mean Age	--	6.62	--	7.07	6.64	6.63	7.42	--	--	6.56	--	--	--	--	--	--

Table 5-5.6. CPUE (number/km) for chub caught in gill nets in management area 5-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1		0.0		0.0	0.0	0.0	0.0			0.0						
2		0.0		0.0	0.0	0.0	0.0			0.0						
3		0.0		0.0	1.4	0.0	0.0			0.0						
4	N	3.9	N	2.3	6.2	8.4	0.0	N	N	0.9	N	N	N	N	N	N
5	O	19.4	O	18.1	44.3	37.9	9.3	O	O	8.4	O	O	O	O	O	O
6		73.7		38.5	96.9	73.6	46.6			14.0						
7		60.1		72.6	85.1	92.6	121.1			6.5						
8	D	27.2	D	49.1	37.4	27.4	93.2	D	D	9.3	D	D	D	D	D	D
9	A	7.8	A	17.4	13.2	14.7	32.6	A	A	2.8	A	A	A	A	A	A
10	T	0.0	T	3.0	3.5	4.2	4.7	T	T	0.0	T	T	T	T	T	T
11	A	1.9	A	0.8	3.5	2.1	0.0	A	A	0.0	A	A	A	A	A	A
12		0.0		0.0	1.4	0.0	4.7			0.0						
13		0.0		0.0	1.4	0.0	0.0			0.0						
14		0.0		0.0	0.0	0.0	0.0			0.0						
15		0.0		0.0	0.0	0.0	0.0			0.0						
Total	0.0	194.0	0.0	201.8	294.2	260.9	312.1	0.0	0.0	41.9	0.0	0.0	0.0	0.0	0.0	0.0
Size	0	100	0	271	430	124	69	0	0	47	0	0	0	0	0	0
Trips	0	3	0	7	13	2	1	0	0	1	0	0	0	0	0	0

Table 5-6.5. The estimated number of chub caught in gill nets in management area 5-6. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0						
2	0	0	0	0	0	0	0	745	0	0						
3	0	0	2,209	654	3,012	0	0	745	1,770	500						
4	962	9,883	4,417	3,596	12,049	14,831	2,493	2,234	9,911	1,000	N	N	N	N	N	N
5	9,623	27,367	27,977	29,098	93,378	65,028	14,957	17,874	16,282	2,500	O	O	O	O	O	O
6	30,793	57,015	49,328	63,428	132,537	104,957	39,886	40,961	18,760	3,214						
7	57,736	82,102	55,954	71,928	105,427	96,971	59,828	53,622	16,282	1,928						
8	57,736	44,852	44,910	48,715	63,256	23,958	34,069	47,664	6,017	714	D	D	D	D	D	D
9	34,642	6,082	15,461	13,078	3,012	5,704	18,281	17,874	1,770	143	A	A	A	A	A	A
10	8,660	760	2,209	4,577	0	3,423	4,155	9,682	354	0	T	T	T	T	T	T
11	1,925	1,520	1,472	654	0	0	831	745	0	0	A	A	A	A	A	A
12	0	0	0	0	0	0	0	1,489	0	0						
13	0	0	0	0	0	0	0	0	0	0						
14	0	0	0	0	0	0	0	0	0	0						
15	0	0	0	0	0	0	0	0	0	0						
Total	202,077	229,580	203,937	235,728	412,673	314,871	174,499	193,635	71,145	9,999	0	0	0	0	0	0
Mean Age	7.53	6.67	6.81	6.81	6.28	6.26	7.05	7.17	5.91	5.78	--	--	--	--	--	--

Table 5-6.6. CPUE (number/km) for chub caught in gill nets in management area 5-6. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0						
3	0.0	0.0	4.2	1.1	4.0	0.0	0.0	1.0	7.4	10.6						
4	1.9	16.4	8.3	6.2	16.0	24.2	5.0	2.9	41.3	21.1	N	N	N	N	N	N
5	18.6	45.3	52.6	49.9	123.9	106.2	29.8	23.0	67.8	52.8	O	O	O	O	O	O
6	59.6	94.4	92.8	108.7	175.8	171.4	79.4	52.6	78.2	67.8						
7	111.7	136.0	105.3	123.2	139.9	158.4	119.2	68.9	67.8	40.7						
8	111.7	74.3	84.5	83.5	83.9	39.1	67.8	61.2	25.1	15.1	D	D	D	D	D	D
9	67.0	10.1	29.1	22.4	4.0	9.3	36.4	23.0	7.4	3.0	A	A	A	A	A	A
10	16.8	1.3	4.2	7.8	0.0	5.6	8.3	12.4	1.5	0.0	T	T	T	T	T	T
11	3.7	2.5	2.8	1.1	0.0	0.0	1.7	1.0	0.0	0.0	A	A	A	A	A	A
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0						
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Total	390.9	380.3	383.8	403.9	547.5	514.2	347.5	248.7	296.4	211.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	210	305	633	999	734	2221	757	459	442	150	0	0	0	0	0	0
Trips	3	5	4	11	2	4	3	4	4	2	0	0	0	0	0	0

Table 5-7.5. The estimated number of chub caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0		276	0	144		0			0			
2				0		0	0	431		0			0			
3				0		551	481	287		28			0			
4	N	N	N	648	N	1,378	2,523	575	N	361	N	N	11	N	N	N
5	O	O	O	4,104	O	3,307	6,128	3,448	O	666	O	O	0	O	O	O
6				8,209		12,676	12,857	6,753		916			0			
7				7,777		15,983	15,260	10,920		611			0			
8	D	D	D	3,672	D	11,298	8,171	9,196	D	528	D	D	0	D	D	D
9	A	A	A	1,080	A	6,338	3,124	4,741	A	83	A	A	0	A	A	A
10	T	T	T	0	T	2,205	1,081	1,580	T	56	T	T	0	T	T	T
11	A	A	A	0	A	276	360	287	A	28	A	A	0	A	A	A
12				0		0	0	144		0			0			
13				0		276	0	0		0			0			
14				0		0	0	0		56			0			
15				0		0	0	0		0			0			
Total	0	0	0	25,490	0	54,563	49,985	38,506	0	3,332	0	0	11	0	0	0
Mean Age	--	--	--	6.51	--	7.11	6.69	7.15	--	6.38	--	--	4.00	--	--	--

Table 5-7.6. CPUE (number/km) for chub caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0.0		1.9	0.0	0.7		0.0						
2				0.0		0.0	0.0	2.0		0.0						
3				0.0		3.8	2.3	1.4		0.7						
4	N	N	N	10.3	N	9.5	11.9	2.7	N	8.6	N	N	N	N	N	N
5	O	O	O	65.1	O	22.9	28.9	16.3	O	15.8	O	O	O	O	O	O
6				130.1		87.7	60.6	31.8		21.7						
7				123.3		110.6	71.9	51.5		14.5						
8	D	D	D	58.2	D	78.2	38.5	43.3	D	12.5	D	D	D	D	D	D
9	A	A	A	17.1	A	43.9	14.7	22.4	A	2.0	A	A	A	A	A	A
10	T	T	T	0.0	T	15.3	5.1	7.5	T	1.3	T	T	T	T	T	T
11	A	A	A	0.0	A	1.9	1.7	1.4	A	0.7	A	A	A	A	A	A
12				0.0		0.0	0.0	0.7		0.0						
13				0.0		1.9	0.0	0.0		0.0						
14				0.0		0.0	0.0	0.0		1.3						
15				0.0		0.0	0.0	0.0		0.0						
Total	0.0	0.0	0.0	404.0	0.0	377.7	235.4	181.5	0.0	79.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	0	0	0	120	0	201	417	274	0	124	0	0	1	0	0	0
Trips	0	0	0	2	0	3	6	4	0	2	0	0	0	0	0	0

Table 5-8.5. The estimated number of chub caught in gill nets in management area 5-8. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0		0				
2	0	0	0	0	0	0	0	0	0	0		0				
3	410	0	515	244	846	0	535	681	3,210	481		0				
4	1,639	1,305	1,029	244	3,384	0	1,069	2,043	7,846	2,005	N	761	N	N	N	N
5	4,916	15,657	9,265	16,379	18,821	6,061	10,157	10,895	19,970	5,935	O	2,046	O	O	O	O
6	15,978	23,746	31,397	43,758	31,298	26,408	32,608	21,337	19,970	10,506		2,760				
7	24,377	23,485	35,515	66,003	35,950	40,261	41,161	21,110	12,838	8,661		809				
8	17,002	18,266	16,471	39,113	21,993	35,066	37,954	16,797	6,062	4,892	D	428	D	D	D	D
9	5,531	5,741	6,177	11,001	11,631	9,957	18,710	7,264	2,496	561	A	0	A	A	A	A
10	1,434	1,827	3,603	3,.78	5,498	1,299	4,811	2,270	1,070	160	T	0	T	T	T	T
11	0	261	1,029	733	846	433	1,604	227	0	0	A	0	A	A	A	A
12	0	0	0	0	423	433	0	0	0	0		0				
13	0	0	0	0	0	0	0	0	0	0		0				
14	0	0	0	0	0	0	0	0	0	0		0				
15	0	0	0	0	0	0	0	0	0	0		0				
Total	71,288	90,288	105,001	180,653	130,689	119,917	148,607	82,623	73,463	33,202	0	6,806	0	0	0	0
Mean Age	7.00	6.75	6.89	6.97	6.88	7.20	7.26	6.84	5.88	6.28	--	5.72	--	--	--	--

Table 5-8.6. CPUE (number/km) for chub caught in gill nets in management area 5-8. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
3	2.4	0.0	1.7	0.5	2.8	0.0	1.2	2.3	12.1	3.3		0.0				
4	9.4	7.6	3.4	0.5	11.3	0.0	2.4	6.9	29.7	13.9	N	21.5	N	N	N	N
5	28.3	91.0	31.0	34.6	63.1	23.3	22.8	36.7	75.5	41.1	O	57.9	O	O	O	O
6	91.9	138.0	104.9	92.5	105.0	101.7	73.1	71.9	75.5	72.7		78.1				
7	140.2	136.5	118.7	139.5	120.6	155.0	92.3	71.1	48.5	59.9		22.9				
8	97.8	106.2	55.0	82.7	73.8	135.0	85.1	56.6	22.9	33.8	D	12.1	D	D	D	D
9	31.8	33.4	20.6	23.3	39.0	38.3	42.0	24.5	9.4	3.9	A	0.0	A	A	A	A
10	8.2	10.6	12.0	6.7	18.4	5.0	10.8	7.6	4.0	1.1	T	0.0	T	T	T	T
11	0.0	1.5	3.4	1.6	2.8	1.7	3.6	0 8	0.0	0.0	A	0.0	A	A	A	A
12	0.0	0.0	0.0	0.0	1.4	1.7	0.0	0.0	0.0	0.0		0.0				
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total	409.9	524.7	350.9	381.9	438.4	461.8	333.4	278.4	277.7	229.7	0.0	192.5	0.0	0.0	0.0	0.0
Size	350	350	477	839	803	337	769	378	532	431	0	145	0	0	0	0
Trips	5	5	3	11	10	4	4	6	7	6	0	3	0	0	0	0

Table 5-9.5. The estimated number of chub caught in gill nets in management area 5-9. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1			0	0	0	0						0				
2			0	0	0	0						0				
3			0	0	0	298						21				
4	N	N	1,615	248	1,702	1,488	N	N	N	N	N	21	N	N	N	N
5	O	O	5,653	3,221	15,315	3,423	O	O	O	O	O	48	O	O	O	O
6			11,307	9,415	17,016	10,864						21				
7			11,710	12,140	11,911	8,929						7				
8	D	D	6,461	7,557	3,403	4,613	D	D	D	D	D	7	D	D	D	D
9	A	A	3,634	1,239	851	446	A	A	A	A	A	0	A	A	A	A
10	T	T	404	248	0	149	T	T	T	T	T	0	T	T	T	T
11	A	A	0	0	0	0	A	A	A	A	A	0	A	A	A	A
12			0	0	0	0						0				
13			0	0	0	0						0				
14			0	0	0	0						0				
15			0	0	0	0						0				
Total	0	0	40,785	34,066	50,198	30,210	0	0	0	0	0	123	0	0	0	0
Mean Age	--	--	6.69	6.83	6.05	6.42	--	--	--	--	--	4.94	--	--	--	--

Table 5-9.6. CPUE (number/km) for chub caught in gill nets in management area 5-9. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1			0.0	0.0	0.0	0.0										
2			0.0	0.0	0.0	0.0										
3			0.0	0.0	0.0	2.4										
4	N	N	12.1	2.2	11.5	11.8	N	N	N	N	N	N	N	N	N	N
5	O	O	42.2	28.5	103.9	27.2	O	O	O	O	O	O	O	O	O	O
6			84.4	83.3	115.5	86.2										
7			87.4	107.5	80.8	70.9										
8	D	D	48.2	66.9	23.1	36.6	D	D	D	D	D	D	D	D	D	D
9	A	A	27.1	11.0	5.8	3.5	A	A	A	A	A	A	A	A	A	A
10	T	T	3.0	2.2	0.0	1.2	T	T	T	T	T	T	T	T	T	T
11	A	A	0.0	0.0	0.0	0.0	A	A	A	A	A	A	A	A	A	A
12			0.0	0.0	0.0	0.0										
13			0.0	0.0	0.0	0.0										
14			0.0	0.0	0.0	0.0										
15			0.0	0.0	0.0	0.0										
Total	0.0	0.0	304.3	301.5	340.6	239.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Size	0	0	101	277	60	206	0	0	0	0	0	18	0	0	0	0
Trips	0	0	2	4	1	3	0	0	0	0	0	1	0	0	0	0

Table 4-5.13. The estimated number of yellow perch caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	681	30,620	16,088	23,006	3,406	72,665	74,946	8,430	1,062	8,500	0	311	0	0	0	0
2	96,445	5,741	146,208	70,691	62,445	34,987	112,419	250,588	23,375	3,643	1,750	55,676	112,457	2,476	3,516	29,700
3	182,225	673,255	73,369	350,947	296,328	561,139	238,289	423,777	744,798	106,853	40,258	137,168	61,087	625,612	58,008	207,902
4	252,347	88,798	181,390	36,182	214,961	215,305	394,907	96,557	180,621	577,979	177,662	45,412	12,495	77,582	479,880	218,297
5	71,710	47,078	11,138	20,705	23,464	21,531	40,355	78,165	26,562	157,852	123,400	21,151	4,165	825	239,061	212,357
6	6,127	15,310	1,414	837	12,110	1,346	961	16,859	14,875	6,071	9,627	9,953	2,083	0	12,305	44,550
7	6,354	3,445	1,061	209	2,649	1,346	0	7,663	5,312	1,214	0	2,799	1,388	825	1,758	13,365
8	1,589	3,062	1,061	209	1,514	0	0	4,598	4,250	0	0	311	0	0	0	0
9	1,135	1,148	530	209	378	0	1,922	3,832	7,437	0	875	622	0	0	0	0
10	454	383	177	0	378	0	1,922	1,533	4,250	0	0	0	0	0	0	0
11	454	0	0	209	0	1,346	0	766	0	0	0	0	0	0	0	0
12	0	0	0	0	378	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	619,520	868,840	432,437	503,205	618,012	909,664	865,720	892,767	1,012,543	862,112	353,573	273,404	193,675	707,321	794,527	726,172
Mean Age	3.59	3.23	3.10	2.94	3.41	3.11	3.28	3.15	3.37	4.04	4.29	3.28	2.59	3.11	4.26	4.10

Table 4-5.14. CPUE (number/km) for yellow perch caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.4	12.4	10.5	18.7	2.0	33.6	32.3	3.4	0.5	3.6	0.0	0.3	0.0	0.0	0.0	0.0
2	58.7	2.3	95.4	57.3	36.5	16.2	48.4	102.1	11.4	1.5	1.7	61.4	324.8	2.7	2.9	31.6
3	110.9	272.7	47.9	284.7	173.2	259.5	102.6	172.7	364.2	45.1	40.0	151.3	176.4	671.5	47.1	220.9
4	153.5	36.0	118.4	29.4	125.7	99.6	170.1	39.3	88.3	243.8	176.5	50.1	36.1	83.3	389.8	232.0
5	43.6	19.1	7.3	16.8	13.7	10.0	17.4	31.8	13.0	66.6	122.6	23.3	12.0	0.9	194.2	225.7
6	3.7	6.2	0.9	0.7	7.1	0.6	0.4	6.9	7.3	2.6	9.6	11.0	6.0	0.0	10.0	47.3
7	3.9	1.4	0.7	0.2	1.5	0.6	0.0	3.1	2.6	0.5	0.0	3.1	4.0	0.9	1.4	14.2
8	1.0	1.2	0.7	0.2	0.9	0.0	0.0	1.9	2.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0
9	0.7	0.5	0.3	0.2	0.2	0.0	0.8	1.6	3.6	0.0	0.9	0.7	0.0	0.0	0.0	0.0
10	0.3	0.2	0.1	0.0	0.2	0.0	0.8	0.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.3	0.0	0.0	0.2	0.0	0.6	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	376.9	351.9	282.2	408.2	361.3	420.7	372.9	363.7	495.1	363.6	351.4	301.6	559.4	759.3	645.5	771.6
Size	2734	2273	2455	2410	1638	690	906	1165	956	715	405	887	281	862	916	1020
Trips	54	44	48	45	31	12	18	21	17	13	8	17	7	19	19	22

Table 4-5.29. The estimated number of yellow perch caught in trap nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		138
2	3,931	121	1,748	489	1,093	797	0	8,009	536	1,127	37	1,600	2,269	0		0
3	5,312	8,051	1,567	9,018	7,167	62,538	2,632	19,222	31,633	8,111	1,789	6,044	252	1,288		2,350
4	3,134	970	3,737	1,328	7,774	26,290	13,398	9,210	9,651	24,109	2,336	3,200	0	0	N	3,041
5	531	485	1,145	2,027	850	2,390	5,264	6,407	2,145	6,985	2,920	1,422	0	161	O	5,943
6	584	182	422	559	1,579	1,593	239	5,206	3,753	676	438	2,133	0	0		2,073
7	797	424	241	489	486	797	239	2,002	1,072	0	37	1,955	0	161		276
8	372	424	422	699	243	398	479	1,201	536	0	0	178	0	0	D	0
9	53	121	422	489	121	0	0	400	0	0	0	0	0	0	A	0
10	212	121	121	210	607	0	239	0	0	0	0	0	0	0	T	0
11	53	0	121	0	243	0	479	0	0	0	0	0	0	0	A	0
12	0	61	0	0	243	0	0	0	0	0	0	0	0	0		0
13	0	0	0	0	121	0	0	0	0	0	0	0	0	0		0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
Total	14,979	10,970	9,945	15,310	20,528	94,802	22,968	51,658	49,326	41,008	7,556	16,533	2,521	1,610	0	13,821
Mean Age	3.62	3.76	4.30	4.07	4.30	3.42	4.46	3.89	3.64	3.95	4.27	4.18	2.10	3.60	--	4.59

Table 4-5.30. CPUE (number/net lift) for yellow perch caught in trap nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			1.1
2	15.6	0.5	8.8	1.7	4.2	1.9	0.0	38.1	2.5	3.7	0.2	10.0	27.9			0.0
3	21.1	33.5	7.9	30.5	27.2	153.0	11.7	91.5	147.8	26.8	9.8	37.9	3.1			18.1
4	12.4	4.0	18.8	4.5	29.5	64.3	59.8	43.9	45.1	79.5	12.8	20.1	0.0	N	N	23.4
5	2.1	2.0	5.7	6.8	3.2	5.8	23.5	30.5	10.0	23.0	16.0	8.9	0.0	O	O	45.8
6	2.3	0.8	2.1	1.9	6.0	3.9	1.1	24.8	17.5	2.2	2.4	13.4	0.0			16.0
7	3.2	1.8	1.2	1.7	1.8	1.9	1.1	9.5	5.0	0.0	0.2	12.3	0.0			2.1
8	1.5	1.8	2.1	2.4	0.9	1.0	2.1	5.7	2.5	0.0	0.0	1.1	0.0	D	D	0.0
9	0.2	0.5	2.1	1.7	0.5	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	A	A	0.0
10	0.8	0.5	0.6	0.7	2.3	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	T	T	0.0
11	0.2	0.0	0.6	0.0	0.9	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	A	A	0.0
12	0.0	0.3	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
13	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
Total	59.4	45.5	49.9	51.7	78.0	232.0	102.4	245.9	230.5	135.3	41.3	103.7	31.1	0.0	0.0	106.4
Size	284	181	165	219	170	240	97	130	92	189	208	94	10	10	0	100
Trips	7	5	6	6	4	5	2	3	2	4	6	3	0	0	0	2

Table 6-1.13. The estimated number of yellow perch caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
1	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0		
2	110	3,819	639	2,778	0	1,158	2,239	8,403	561	79	400	0	124	43	130		
3	4,065	21,960	8,090	17,698	5,604	17,894	7,578	21,487	36,786	6,790	2,120	215	629	689	390		
4	38,237	18,523	35,022	6,666	19,053	13,894	22,045	9,786	6,505	10,959	5,161	2,149	1,087	1,314	2,112	N	
5	23,404	22,342	16,712	9,047	4,483	6,737	15,500	7,233	1,682	2,805	2,120	8,895	1,420	733	3,574	O	
6	29,227	19,096	12,348	2,778	3,213	1,474	3,100	4,361	2,579	236	240	4,641	1,141	539	1,007		
7	4,615	6,683	5,216	2,619	1,494	526	689	2,234	1,122	0	20	1,031	116	151	227		
8	879	1,910	1,597	873	971	105	0	213	785	0	0	129	8	43	260	D	
9	330	191	0	0	374	211	0	213	449	0	0	0	0	0	0	A	
10	0	191	0	79	0	0	172	0	112	0	0	0	0	22	0	T	
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	100,866	94,714	79,624	42,538	35,193	41,999	51,323	53,931	50,580	20,869	10,082	17,060	4,525	3,533	7,701	0	
Mean Age	4.96	4.64	4.68	4.07	4.44	3.82	4.25	3.75	3.57	3.82	3.97	5.26	4.71	4.51	4.86	–	

Table 6-1.14. CPUE (number/km) for yellow perch caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0		
2	0.2	5.7	1.2	7.7	0.0	4.1	8.8	42.5	2.5	0.5	3.8	0.0	3.1	2.3	1.6		
3	7.2	32.5	14.9	49.1	24.4	63.4	29.8	108.7	161.1	40.4	20.2	1.7	15.6	37.0	4.8		
4	68.2	27.4	64.7	18.5	83.0	49.2	86.6	49.5	28.5	65.2	49.1	16.8	27.0	70.4	26.2	N	
5	41.7	33.1	30.9	25.1	19.5	23.9	60.9	36.6	7.4	16.7	20.2	69.6	35.3	39.3	44.4	O	
6	52.1	28.3	22.8	7.7	14.0	5.2	12.2	22.1	11.3	1.4	2.3	36.3	28.3	28.9	12.5		
7	8.2	9.9	9.6	7.3	6.5	1.9	2.7	11.3	4.9	0.0	0.2	8.1	2.9	8.1	2.8		
8	1.6	2.8	2.9	2.4	4.2	0.4	0.0	1.1	3.4	0.0	0.0	1.0	0.2	2.3	3.2	D	
9	0.6	0.3	0.0	0.0	1.6	0.7	0.0	1.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	A	
10	0.0	0.3	0.0	0.2	0.0	0.0	0.7	0.0	0.5	0.0	0.0	0.0	0.0	1.2	0.0	T	
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total	179.9	140.3	147.0	118.0	153.3	148.8	201.7	272.9	221.5	124.2	95.9	133.4	112.4	189.4	95.6	0.0	
Size	920	501	749	538	475	400	349	507	508	800	519	401	595	164	240	0	
Trips	20	10	15	11	10	8	7	10	10	11	11	8	13	4	6	0	

Table 4-5.17. The estimated number of walleye caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	417	696	828	76	183	512	732	0	0	334	0	92	0	0	0	113
2	5,001	522	2,416	9,016	61	8,527	8,785	1,177	9,005	2,674	96	46	703	0	0	0
3	5,974	2,785	276	917	5,784	1,194	3,844	2,616	375	2,785	0	229	268	1,257	1,343	113
4	1,528	5,136	2,830	611	1,339	3,581	2,013	1,962	3,002	223	4,127	642	1,206	898	9,623	5,079
5	1,389	1,132	3,313	1,757	487	1,705	732	131	1,876	1,337	1,632	1,422	1,608	2,515	1,566	8,917
6	1,667	1,393	1,312	1,757	365	0	1,098	523	750	2,897	1,824	1,513	1,641	719	1,343	2,370
7	5,557	2,002	1,173	764	244	341	0	131	1,126	446	864	1,146	1,005	1,078	448	1,580
8	4,029	4,091	1,588	1,375	365	171	183	131	0	891	576	917	502	180	224	1,242
9	1,945	2,263	2,899	1,146	487	0	183	131	375	334	192	642	268	359	224	903
10	1,528	2,263	2,761	1,528	365	341	366	0	375	111	0	229	0	0	0	564
11	556	1,306	1,933	611	122	171	366	0	375	0	192	138	0	180	0	339
12	139	174	690	76	122	0	0	0	0	0	288	183	0	0	0	226
13	0	0	276	0	61	0	183	0	0	0	96	46	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	138	0	0	0	0	0	375	0	0	0	0	0	0	0
Total	29,729	23,763	22,434	19,637	9,984	16,542	18,486	6,800	17,635	12,033	9,886	7,245	7,202	7,185	14,770	21,445
Mean Age	5.49	6.35	6.78	4.70	4.40	3.21	3.32	3.67	3.96	4.44	5.56	6.54	5.33	5.35	4.42	5.63

Table 4-5.18. CPUE (number/km) for walleye caught in gill nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.9	1.7	1.1	0.3	1.9	4.3	4.7	0.0	0.0	1.8	0.0	0.4	0.0	0.0	0.0	0.4
2	10.4	1.3	3.4	33.6	0.6	71.9	56.5	17.1	67.3	14.4	0.4	0.2	4.5	0.0	0.0	0.0
3	12.4	6.8	0.4	3.4	58.9	10.1	24.7	38.1	2.8	15.0	0.0	0.9	1.7	7.2	7.6	0.4
4	3.2	12.6	3.9	2.3	13.6	30.2	12.9	28.6	22.4	1.2	19.0	2.5	7.7	5.2	54.2	18.4
5	2.9	2.8	4.6	6.6	5.0	14.4	4.7	1.9	14.0	7.2	7.5	5.6	10.2	14.5	8.8	32.3
6	3.5	3.4	1.8	6.6	3.7	0.0	7.1	7.6	5.6	15.6	8.4	6.0	10.4	4.1	7.6	8.6
7	11.6	4.9	1.6	2.9	2.5	2.9	0.0	1.9	8.4	2.4	4.0	4.5	6.4	6.2	2.5	5.7
8	8.4	10.0	2.2	5.1	3.7	1.4	1.2	1.9	0.0	4.8	2.6	3.6	3.2	1.0	1.3	4.5
9	4.0	5.6	4.0	4.3	5.0	0.0	1.2	1.9	2.8	1.8	0.9	2.5	1.7	2.1	1.3	3.3
10	3.2	5.6	3.8	5.7	3.7	2.9	2.4	0.0	2.8	0.6	0.0	0.9	0.0	0.0	0.0	2.0
11	1.2	3.2	2.7	2.3	1.2	1.4	2.4	0.0	2.8	0.0	0.9	0.5	0.0	1.0	0.0	1.2
12	0.3	0.4	1.0	0.3	1.2	0.0	0.0	0.0	0.0	0.0	1.3	0.7	0.0	0.0	0.0	0.8
13	0.0	0.0	0.4	0.0	0.6	0.0	1.2	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	61.9	58.3	31.1	73.3	101.7	139.4	118.8	99.0	131.8	64.7	45.4	28.7	45.7	41.4	83.2	77.6
Size	216	273	325	258	164	100	101	52	48	108	103	158	215	40	66	191
Trips	7	7	8	8	5	3	3	2	2	3	2	5	6	1	2	6

Table 4-5.33. The estimated number of walleye caught in trap nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	3,055	5,782	2,706	76	7,302	1,139	4,461	2,036	0	2,137	0	6,677	0	0	1,540	4,410
2	20,366	7,034	24,260	35,329	3,007	62,354	25,957	17,401	39,734	14,009	47,546	2,170	66,865	3,188	10,471	3,307
3	27,494	33,245	2,657	24,517	63,714	11,104	33,866	39,616	20,404	48,438	10,401	53,085	13,866	73,953	11,703	13,413
4	2,898	16,285	6,594	2,056	8,734	41,569	4,056	24,251	18,256	1,662	16,344	7,011	17,256	5,738	45,888	19,477
5	2,507	2,313	4,330	1,447	716	6,264	9,126	4,813	15,035	4,036	2,476	5,676	2,465	8,925	2,156	13,781
6	3,055	2,409	1,230	838	1,289	1,139	2,028	2,407	1,611	2,612	1,981	2,003	4,930	4,888	1,540	735
7	4,465	3,469	1,132	609	1,718	1,424	811	1,666	3,222	712	2,972	1,836	2,773	3,400	2,464	184
8	4,308	6,456	2,018	381	1,289	1,708	1,217	185	1,611	950	330	1,669	1,849	1,275	924	1,102
9	3,212	4,336	2,264	609	1,289	1,139	2,028	740	0	950	1,156	334	924	425	308	551
10	2,037	3,084	2,165	1,523	2,291	854	203	926	1,611	237	330	1,169	0	425	0	184
11	1,253	1,349	1,870	609	2,720	285	811	2,036	0	475	330	501	0	0	0	184
12	548	867	689	533	859	569	1,420	555	1,611	0	165	0	0	0	0	0
13	157	0	541	152	573	0	1,014	185	1,611	712	0	0	0	0	0	0
14	0	0	49	152	430	0	0	370	0	237	330	0	0	0	0	0
15	78	0	148	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	75,433	86,629	52,653	68,830	95,929	129,548	86,997	97,188	104,705	77,168	84,361	82,131	110,929	102,217	76,993	57,328
Mean Age	4.07	4.41	4.17	3.05	3.77	3.21	3.53	3.67	3.73	3.36	3.12	3.47	2.96	3.59	3.75	3.86

Table 4-5.34. CPUE (number/net lift) for walleye caught in trap nets in management area 4-5. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	1.7	4.0	1.7	0.1	3.7	0.7	3.2	1.5	0.0	1.4	0.0	3.9	0.0	0.0	1.8	5.8
2	11.0	4.8	15.0	25.1	1.5	36.1	18.9	12.5	25.1	9.0	29.2	1.3	78.6	4.9	12.1	4.4
3	14.9	22.8	1.6	17.4	32.6	6.4	24.6	28.5	12.9	31.3	6.4	31.3	16.3	113.0	13.5	17.7
4	1.6	11.2	4.1	1.5	4.5	24.1	2.9	17.5	11.5	1.1	10.0	4.1	20.3	8.8	52.8	25.7
5	1.4	1.6	2.7	1.0	0.4	3.6	6.6	3.5	9.5	2.6	1.5	3.3	2.9	13.6	2.5	18.2
6	1.7	1.7	0.8	0.6	0.7	0.7	1.5	1.7	1.0	1.7	1.2	1.2	5.8	7.5	1.8	1.0
7	2.4	2.4	0.7	0.4	0.9	0.8	0.6	1.2	2.0	0.5	1.8	1.1	3.3	5.2	2.8	0.2
8	2.3	4.4	1.2	0.3	0.7	1.0	0.9	0.1	1.0	0.6	0.2	1.0	2.2	1.9	1.1	1.5
9	1.7	3.0	1.4	0.4	0.7	0.7	1.5	0.5	0.0	0.6	0.7	0.2	1.1	0.6	0.4	0.7
10	1.1	2.1	1.3	1.1	1.2	0.5	0.1	0.7	1.0	0.2	0.2	0.7	0.0	0.6	0.0	0.2
11	0.7	0.9	1.2	0.4	1.4	0.2	0.6	1.5	0.0	0.3	0.2	0.3	0.0	0.0	0.0	0.2
12	0.3	0.6	0.4	0.4	0.4	0.3	1.0	0.4	1.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
13	0.1	0.0	0.3	0.1	0.3	0.0	0.7	0.1	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	40.8	59.5	32.5	48.8	49.0	75.1	63.2	70.0	66.1	49.8	51.8	48.4	130.4	156.2	88.6	75.5
Size	963	899	1072	905	672	455	430	525	214	326	520	492	362	481	250	312
Trips	21	18	20	16	14	8	8	9	4	8	11	9	6	10	5	7

Table 5-2.13. The estimated number of walleye caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0			0	0	0	0		0				
2				0			58	0	0	0		0				
3				288			233	77	14	0		238				
4	N	N	N	511	N	N	291	460	77	0	N	79	N	N	N	N
5	O	O	O	920	O	O	407	192	322	70	O	79	O	O	O	O
6				130			174	230	126	261		199				
7				65			58	307	119	52		20				
8	D	D	D	19	D	D	58	192	91	105	D	20	D	D	D	D
9	A	A	A	9	A	A	0	230	35	70	A	0	A	A	A	A
10	T	T	T	28	T	T	0	38	21	17	T	0	T	T	T	T
11	A	A	A	0	A	A	0	77	7	0	A	0	A	A	A	A
12				9			0	38	0	0		0				
13				9			0	0	0	0		0				
14				0			0	0	0	0		0				
15				9			0	0	0	0		0				
Total	0	0	0	1,998	0	0	1,280	1,840	811	575	0	636	0	0	0	0
Mean Age	--	--	--	4.82	--	--	4.64	6.44	6.01	6.82	--	4.59	--	--	--	--

Table 5-2.14. CPUE (number/km) for walleye caught in gill nets in management area 5-2. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1				0.0			0.0	0.0	0.0	0.0		0.0				
2				0.0			1.2	0.0	0.0	0.0		0.0				
3				3.4			4.7	1.2	0.3	0.0		4.3				
4	N	N	N	6.1	N	N	5.8	7.2	1.6	0.0	N	1.4	N	N	N	N
5	O	O	O	10.9	O	O	8.2	3.0	6.8	1.7	O	1.4	O	O	O	O
6				1.5			3.5	3.6	2.7	6.5		3.6				
7				0.8			1.2	4.8	2.5	1.3		0.4				
8	D	D	D	0.2	D	D	1.2	3.0	1.9	2.6	D	0.4	D	D	D	D
9	A	A	A	0.1	A	A	0.0	3.6	0.7	1.7	A	0.0	A	A	A	A
10	T	T	T	0.3	T	T	0.0	0.6	0.4	0.4	T	0.0	T	T	T	T
11	A	A	A	0.0	A	A	0.0	1.2	0.1	0.0	A	0.0	A	A	A	A
12				0.1			0.0	0.6	0.0	0.0		0.0				
13				0.1			0.0	0.0	0.0	0.0		0.0				
14				0.0			0.0	0.0	0.0	0.0		0.0				
15				0.1			0.0	0.0	0.0	0.0		0.0				
Total	0.0	0.0	0.0	23.7	0.0	0.0	25.7	28.8	17.2	14.2	0.0	11.4	0.0	0.0	0.0	0.0
Size	0	0	0	215	0	0	23	48	116	33	0	32	0	0	0	0
Trips	0	0	0	7	0	0	1	1	3	1	0	1	0	0	0	0

Table 5-7.13. The estimated number of walleye caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1						0			0	28	5	0	0	0		0
2						0			56	0	5	0	19	0		0
3						0			105	364	5	44	0	0		165
4	N	N	N	N	N	163	N	N	43	65	280	133	19	0	N	189
5	O	O	O	O	O	113	O	O	248	37	59	221	56	0	O	79
6						50			93	103	43	59	149	0		16
7						63			25	28	43	29	56	166		8
8	D	D	D	D	D	0	D	D	19	19	22	29	37	166	D	16
9	A	A	A	A	A	25	A	A	12	0	22	15	75	0	A	8
10	T	T	T	T	T	13	T	T	0	9	5	0	0	0	T	24
11	A	A	A	A	A	13	A	A	6	9	0	0	0	0	A	0
12						13			0	0	0	0	0	0		0
13						0			0	0	0	0	0	0		0
14						0			0	0	0	0	0	0		0
15						0			0	0	0	0	0	0		0
Total	0	0	0	0	0	452	0	0	608	663	490	530	410	332	0	504
Mean Age	--	--	--	--	--	5.75	--	--	4.78	4.11	4.96	5.08	6.45	7.50	--	4.42

Table 5-7.14. CPUE (number/km) for walleye caught in gill nets in management area 5-7. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1						0.0			0.0	0.3	0.1	0.0	0.0	0.0		0.0
2						0.0			0.9	0.0	0.1	0.0	0.2	0.0		0.0
3						0.0			1.7	3.4	0.1	0.3	0.0	0.0		2.0
4	N	N	N	N	N	4.2	N	N	0.7	0.6	4.0	0.8	0.2	0.0	N	2.3
5	O	O	O	O	O	2.9	O	O	4.0	0.4	0.9	1.3	0.5	0.0	O	1.0
6						1.3			1.5	1.0	0.6	0.3	1.4	0.0		0.2
7						1.6			0.4	0.3	0.6	0.2	0.5	2.8		0.1
8	D	D	D	D	D	0.0	D	D	0.3	0.2	0.3	0.2	0.4	2.8	D	0.2
9	A	A	A	A	A	0.6	A	A	0.2	0.0	0.3	0.1	0.7	0.0	A	0.1
10	T	T	T	T	T	0.3	T	T	0.0	0.1	0.1	0.0	0.0	0.0	T	0.3
11	A	A	A	A	A	0.3	A	A	0.1	0.1	0.0	0.0	0.0	0.0	A	0.0
12						0.3			0.0	0.0	0.0	0.0	0.0	0.0		0.0
13						0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0
14						0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0
15						0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total	0.0	0.0	0.0	0.0	0.0	11.5	0.0	0.0	9.7	6.3	7.1	3.1	3.9	5.6	0.0	6.2
Size	0	0	0	0	0	36	0	0	98	72	94	36	22	2	0	65
Trips	0	0	0	0	0	1	0	0	2	2	3	1	1	0	0	2

Table 6-1.9. The estimated number of walleye caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	114	516	1,703	758	137	239	1,509	0	0	1,804	0	66	0	0	0	0
2	2,982	516	334	654	208	239	2,304	2,584	2,567	3,721	643	3,900	2,109	206	625	30
3	85	295	67	26	38	40	318	6,459	0	1,015	1,636	1,147	3,446	3,534	1,849	2,157
4	1,250	331	234	209	33	159	0	1,292	2,567	226	964	164	231	1,475	10,702	942
5	2,642	1,620	534	1,595	93	120	636	0	0	0	672	426	103	686	573	1,792
6	824	2,320	668	1,072	247	339	159	0	0	226	614	131	0	309	26	486
7	170	295	1,569	445	296	1,036	159	646	0	0	467	131	0	0	0	61
8	312	221	467	602	400	817	79	0	0	113	205	66	0	34	0	30
9	199	110	300	52	531	438	318	646	0	113	117	0	0	0	0	0
10	57	37	267	26	186	359	159	0	0	0	117	0	0	0	0	30
11	28	0	334	26	153	100	159	0	0	0	29	0	0	0	0	0
12	28	37	234	26	170	100	0	0	0	0	29	0	0	0	0	0
13	28	0	200	0	93	80	0	0	0	0	0	0	0	0	0	0
14	28	0	33	0	77	40	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	49	0	0	0	0	0	0	0	0	0	0	0
Total	8,748	6,297	6,945	5,492	2,712	4,104	5,799	11,626	5,134	7,217	5,493	6,030	5,889	6,244	13,774	5,529
Mean Age	4.22	4.99	5.74	4.85	7.89	7.14	3.30	3.44	3.00	2.28	4.53	2.71	2.72	3.60	3.82	4.19

Table 6-1.10. CPUE (number/km) for walleye caught in gill nets in management area 6-1. Catch includes fish that were harvested, released, or discarded.

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.3	1.9	6.7	3.5	1.0	1.4	12.8	0.0	0.0	12.2	0.0	0.4	0.0	0.0	0.0	0.0
2	7.1	1.9	1.3	3.0	1.5	1.4	19.5	11.9	24.1	25.3	3.3	24.2	32.4	4.0	7.3	0.8
3	0.2	1.1	0.3	0.1	0.3	0.2	2.7	29.8	0.0	6.9	8.5	7.1	52.9	69.0	21.4	54.1
4	3.0	1.2	0.9	1.0	0.2	0.9	0.0	6.0	24.1	1.5	5.0	1.0	3.6	28.8	124.2	23.6
5	6.3	6.0	2.1	7.3	0.7	0.7	5.4	0.0	0.0	0.0	3.5	2.6	1.6	13.4	6.6	45.0
6	1.9	8.6	2.6	4.9	1.8	2.0	1.3	0.0	0.0	1.5	3.2	0.8	0.0	6.0	0.3	12.2
7	0.4	1.1	6.1	2.0	2.2	6.1	1.3	3.0	0.0	0.0	2.4	0.8	0.0	0.0	0.0	1.5
8	0.7	0.8	1.8	2.7	3.0	4.8	0.7	0.0	0.0	0.8	1.1	0.4	0.0	0.7	0.0	0.8
9	0.5	0.4	1.2	0.2	3.9	2.6	2.7	3.0	0.0	0.8	0.6	0.0	0.0	0.0	0.0	0.0
10	0.1	0.1	1.0	0.1	1.4	2.1	1.3	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.8
11	0.1	0.0	1.3	0.1	1.1	0.6	1.3	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
12	0.1	0.1	0.9	0.1	1.3	0.6	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
13	0.1	0.0	0.8	0.0	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.1	0.0	0.1	0.0	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	20.7	23.3	27.2	25.1	20.1	24.2	49.1	53.6	48.3	49.0	28.6	37.5	90.4	122.0	159.8	138.7
Size	308	171	209	211	507	206	73	18	4	64	188	185	231	184	530	182
Trips	8	4	6	5	10	4	2	1	0	2	6	6	7	4	11	4